

MINUTES OF THE 45th MEETING OF THE CENTRAL GEOLOGICAL PROGRAMMING BOARD HELD AT NEW DELHI ON 11.09.2009 and 12.09.2009

45.0.00	The 45 th meeting of the Central Geological Programming Board (CGPB) was held on 11 th and 12 th September, 2009 at Hall No. 4, Vigyan Bhawan, New Delhi. Shri B.K.Handique, Hon'ble Minister of Mines and DoNER inaugurated the meeting. On the occasion an exhibition was organized in Vigyan Bhawan which was opened by the Hon'ble Minister. The exhibition displayed the activities of GSI in mission mode through maps, charts and samples. In addition brochures, pamphlets specially prepared for the occasion, depicting the activities of the organization were distributed in the exhibition. A live demonstration of GSI portal was also arranged both in the exhibition hall and auditorium. In addition to GSI, Hindusthan Copper Limited (HCL), Indian Bureau of Mines (IBM) and Mineral Exploration Corporation Limited (MECL) also participated in the exhibition and highlighted their activities and achievements through audio-visual presentations, posters and samples. Smt. Santha Sheela Nair, Secretary to the Govt. of India, Ministry of Mines (MOM), and Shri S. Vijay Kumar, Additional Secretary (Mines) also visited and appreciated the exhibition. A list of Members/Participants of the 45 th meeting of the Central Geological Programming Board is annexed (Annexure – I).
45.0.01	At the outset Dr. B. Chattopadhyay, Deputy Director General (Planning, Programming and Monitoring), Geological Survey of India (GSI), CHQ and Member Secretary, CGPB welcomed the Hon'ble Minister of Mines, Secretary, Ministry of Mines and Chairperson CGPB, Additional Secretary (Mines) and all the participating members of the CGPB which includes representatives from State and Central Government departments, PSUs and Private Entrepreneurs etc. and other participants. He informed the house that in the present scenario CGPB which was established in 1966 and over the years has facilitated the process of Annual Programme formulation of GSI and its approval has been revamped and the Board now functions through 12 theme based Committees.
45.1.00	WELCOME ADDRESS BY DIRECTOR GENERAL, GSI.
45.1.01	Shri N.K.Dutta, Director General (Current Charge), Geological Survey of India welcomed the Hon'ble Minister of Mines, Secretary, Ministry of Mines and Chairman CGPB, Additional Secretary (Mines) and all the participating members of the CGPB. He thanked all state governments and state and central institutions for participating in the CGPB and expressed that the CGPB would review the activities of GSI during the year 2008-09 and help in finalization of programme for the next year (2009-10).
45.1.02	He stated that the Chairperson of CGPB, Ms. Santha Sheela Nair, Secretary to Govt. of India, Ministry of Mines had given a new direction to the mineral search activities of the country. He placed on record the contribution made by Shri S. Vijay Kumar, Additional Secretary, Ministry

	of Mines towards giving a new direction to GSI and that his endeavour led to the finalization of the High Powered Committee report.
45.2.00	ADDRESS BY HON'BLE MINISTER OF MINES
45.2.01	Shri B.K. Handique, Hon'ble Minister of Mines and DoNER, Government of India in his inaugural address informed that the annual programme of GSI is to be finalized with inputs from all stakeholders. He expressed his pleasure for GSI's initiative to reorient itself to form partnerships with the states and central institutions in furtherance of geoscientific activities and described GSI as an institute of high standing and national asset for Central and State institutions.
45.2.03	He informed the house that industrialization and global climate changes are directly related and requested all to remain careful while disturbing the critical balance of the earth system through anthropogenic processes and not to contribute to the inherent endogenic processes.
45.2.04	Hon'ble Minister argued that GSI should equip itself to deliver the needs of the country and for GSI's benefit and sustainability HPC recommendations would be implemented soon.
45.2.05	Hon'ble Minister informed that the mining policies and acts are being continuously reviewed and made industry friendly. In order to promote confidence in the industry, GSI will be the primary agency for exploration while IBM will be the principal regulatory authority and both these organizations should act as a facilitator.
45.2.06	He desired that the GSI reports and thematic maps should be in the public domain for sharing knowledge acquired through dedicated work during the last 100 years. GSI portal should be used for dissemination of knowledge, information and data. He requested IBM to come up with online tenement registry so that availability of the concession is known to the investor.
	He stressed the need for introduction of new technology for exploration and mining and informed that GSI has entered into collaboration with Indian Space Agency to initiate ground checking of mineral belts utilizing "hyperspectral remote sensing" data available with ISRO.
45.2.07	Geomorphological map, which has utility for landuse planning activities and in understanding the contemporary deformation in regional scale, will be prepared jointly by GSI, NNRMS along with their state counterparts within a three year time frame, he informed. .
45.2.08	He desired that GSI and IBM should put emphasis for development of mineral wealth in the northeastern part of the country. He expressed happiness at the change in people's thinking in NER where they have allowed mining of uranium in Meghalaya and coal exploration will soon be allowed in Nagaland.
45.2.09	Hon'ble Minister assured GSI of all support of the Ministry in its endeavor to get into the Mission Mode of functioning.
45.3.00	RELEASE OF BOOK WRITTEN BY OFFICERS OF GSI
45.3.01	The Hon'ble Minister of Mines released a book titled "Bhu Manthan"

	written by officers of GSI in Hindi to promote Rajbhasa.
45.4.00	ADDRESS BY CHAIRPERSON
45.4.01	In the absence of the Secretary, Ministry of Mines, Government of India, who had to leave the venue because of some pre-occupation, Shri S. Vijay Kumar, Additional Secretary (Mines) addressed the gathering on behalf of the Secretary.
45.4.02	He congratulated GSI for showing significant and incremental improvement in quality in its activities and informed that GSI has a new vision which has been circulated to all stakeholders for forging better partnerships with them. He informed that Ministry of Mines will continue to provide all support to GSI in its effort to reposition itself as a facilitator and service provider.
45.4.03	He informed the house that GSI' s charter has been redefined and made broad based. The annual programme has been restructured in mission mode to achieve specific goals. Considering the potential of GSI the Finance Minister has announced in the Parliament an additional allocation of Rs.15 crores to GSI for the Financial year 2009-10 for climate related studies at a faster pace.
45.4.04	He further informed that although GSI's core competence has been base line data generation, thrust has now been given to application of Information technology through Mission Geoinformatics and appreciated the efforts made by GSI during the last six months for development of its portal and hoped that it would match world class standards and serve as a repository of data.
45.4.05	He also stated that GSI's geophysical data generated from geophysical mapping of the country will be the basis of a new National geophysical data repository.
45.4.06	He informed that GSI is basically a service provider to the States and Industry and the primary purpose of CGPB is to develop a relationship between GSI and States and to give a boost to it, GSI has earmarked 10% of its budget exclusively for State priorities.
45.4.07	He announced that GSI data and publications mostly will be available free of cost. He requested GSI to have a liberal attitude and be pro-active in data dissemination.
45.5.00	CONFIRMATION OF THE MINUTES OF THE 44th MEETING HELD IN NEW DELHI ON 14.2.2009
45.5.01	Member Secretary informed the house that the minutes of the 44 th CGPB held in New Delhi on 14.2.2009, has already been circulated to all the members of the Board, is available in the GSI portal. As there were no comments, the minutes were confirmed.
45.6.00	DISCUSSIONS ON FOLLOW-UP ACTION ON THE DECISIONS OF THE 44th MEETING OF THE CGPB HELD AT NEW DELHI ON 14.2.2009.
45.6.01	The status of the follow up action on the decisions of the 44 th CGPB was sequentially placed before the house by the Member Secretary, CGPB. The issues were grouped under specific subject head for the benefit of

	comprehensive discussion.
45.6.02	<p>In relation to para 44.2.01 and 44.2.02 regarding making the CGPB an effective instrument for partnership between GSI and State Departments and holding regular SGPB meetings, the Member Secretary informed that about 45% of the proposed mineral investigation items to be taken up by GSI during the Field Season 2009-10 are based on State's requests. He requested the State DGMs to come up for follow up action.</p> <p style="text-align: right;">[Action: All State DGMs]</p> <p>Additional Secretary (Mines) informed that while formulating the programme of GSI requests of stakeholders has been considered. He requested that SGPB should be held regularly and all Dy. D.G.s of GSI should attend SGPB so that items recommended can be taken up by GSI and the source of the item (whether from CGPB or SGPB) should be reflected in the Field Season Programme of GSI so that involvement of the stakeholders can be ascertained.</p> <p style="text-align: right;">[Action: GSI/ All State DGMs]</p>
45.6.03	<p>On para 44.2.04 regarding submission of the report of the High Powered Committee the Member Secretary informed that the report has been released and implementation has started.</p>
45.6.04	<p>On para 44.2.05 and 44.2.10 regarding access to GSI reports and map data products the Member Secretary informed that the draft programme of Field Season Programme for 2009 – 10 has already been uploaded in the GSI portal. Arrangements are being made for bulk uploading of publication and post-2004 reports.</p> <p>Additional Secretary (Mines) stated that if any State has requirement of any specific report they can indicate so and that Report would be uploaded to Portal on priority.</p> <p style="text-align: right;">[Action: All State DGMs]</p> <p>Reacting to the statement Member Secretary informed that reports circulated before 2004 will be provided on request.</p>
45.6.05	<p>On para 44.2.06 and 44.5.48 regarding exploration strategy and assessment of low grade iron ore (+45%), Member Secretary informed that IBM reported that the threshold value of hematite ore has been revised to +45%, and for siliceous iron ore to +35%. He further informed that GSI has already taken up iron ore investigation with 45% cutoff in the unexplored lease free areas and will be revisiting the explored areas based on availability of human resources. For leasehold areas exploration strategy has to be framed by MoM.</p> <p style="text-align: right;">[Action: MoM]</p>
45.6.06	<p>In response to para 44.2.07 on tenement registry, mineral atlas, data filing requirements and responsibilities, dissemination of data of RP holders after the lock-in period, the Member Secretary informed that MOM desires that both GSI and IBM should strictly enforce the requirement of data filing.</p>

	<p style="text-align: right;">[Action : GSI/IBM]</p> <p>Reacting to Member Secretary's statement the representative of IBM agreed to the proposal.</p>
45.6.07	<p>On para 44.2.08 regarding national geochemical mapping, geomorphological and lineament mapping and hyperspectral mapping programmes, it was decided that the priority of 1132 toposheets for GCM may be worked out. Data /Maps will be shared as per policy and the report will be uploaded on GSI portal.</p> <p style="text-align: right;">[Action : GSI]</p> <p>Reacting to the proposal, Additional Secretary (Mines) suggested that without waiting for the final report, part report and part data available may also be uploaded on the portal.</p> <p>Representative of ACC Rio Tinto opined that processed data will have no meaning unless XYZ coordinates are provided.</p> <p>On the question of integration of data generated by other agencies with GSI data, the Member Secretary informed that homogenization of data will be required for this purpose. He stated that data of other agencies can be stored but not collated with GSI data. The Additional Secretary agreed to the proposal.</p> <p>Reacting to the issue the Advisor TPPC opined that the basic requirement is to locate a deposit irrespective of the data source.</p>
45.6.08	<p>On para 44.2.09 regarding increasing demand in the field of Geoscientific activity for well trained professionals, Member Secretary informed that GSI will have six Regional Training Institutes and six Field Training Centers to impart training in the field of geoscientific activity. IBM and NIRM will also provide the necessary training.</p> <p style="text-align: right;">[Action : GSI/IBM/NIRM]</p> <p>Reacting to the proposal Advisor TPPC informed that a team of CII is on the job and has written letters to ICAR and 28 other organizations. They have also sent a questionnaire for the purpose of selecting people.</p> <p>Additional Secretary (Mines) opined that knowledge and skill should have to be developed in the younger generation. He offered the educational institutions to come up with their requirements so that students with sound knowledge come from the institute. He was of the opinion that total sectoral capacity in the field of training should be improved.</p> <p style="text-align: right;">[Action : All stakeholders]</p>
45.6.09	<p>On para 44.2.11 regarding arranging exhibition by GSI in CGPB/SGPB/Committee meetings on a regular basis, Member Secretary informed that an exhibition with a new look and content has been organized in the 45 CGPB meeting.</p>

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45.6.10	On para 44.4.09 regarding signing MoU between GSI and Geological Survey of Saudi Arabia for training of personnel of Saudi Geological Survey, Member Secretary informed that the request made by the Saudi Geological Survey is under active consideration of the Govt.
45.6.11	In response to para 44.4.11 regarding presentation of GSI NET – Portal in each CGPB, Member Secretary informed that presentation of GSI portal with upgradation in its content would be made in this CGPB.
45.6.12	On para 44.4.12 regarding status of career progression in GSI, Member Secretary informed that as per HPC recommendation a cabinet note with increased strength of S&T personnel is under preparation. Several proposals pertaining to career progression are pending in the Ministry of Mines. However GSI has already been declared as an attached office of Ministry of Mines. [Action : MOM]
45.6.13	On para 44.5.02 regarding revamping of CGPB and reconstitution of board, the house was informed that CGPB has already been revamped and is now functioning through 12 committees.
45.6.14	Regarding para 44.5.03 on holding regular SGPB meeting it was mentioned by Member Secretary that 19 SGPB meeting was held after the 44 th CGPB.
45.6.15	On para 44.5.04 regarding IBM making direct contact with lessees and granting excess mining permission without informing the states representative of Government of Karnataka desired that IBM should consult or at least inform the states in the event of increasing/revising the mining plans of the lessees to curb illegal mining. [Action : IBM] Several States stated that procedures allowing deviation from approved production plan needed to be done by IBM more transparently. State DGM should be informed of IBM inspections and changes in production plan should be intimated by IBM to the State DGMs. IBM stated that they would issue guidelines on the procedure so that there was no miscommunication. [Action: IBM]
45.6.16	On para 44.5.05 regarding implementation of the UNFC classification of ore reserves the Member Secretary informed that IBM is taking care of the training needs and GSI could also help in the matter. He announced that from the Field Season 2009-10 GSI would follow UNFC classification of ore reserves/resources and that GSI carries out exploration up to G-3 level. Feasibility and economic studies are not undertaken by GSI. Regarding training for reclassification of the resources under UNFC scheme, he requested the states to contact IBM so that tailor made course may be arranged.

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	<p>Additional Secretary (Mines) invited state's views on the issue especially as IBM has changed the cut off grades of eight minerals. He desired that each state should record a revised strategy for carrying out revised survey and explore the possibility of providing a guideline to the leaseholder to reassess the reserve or the state and the lessee may jointly undertake the work in a collaborative mode. He also pointed out that the Hoda committee had suggested auctioning the ore bodies but the level of confidence about the ore was crucial for the auction process.</p> <p>[Action: All State DGMS]</p>
45.6.17	<p>On para 44.5.09 regarding sending copy of the policies on mining and minerals formulated by states to MoM Member Secretary informed that some of the states had already sent the requisite information and requested others to provide without further delay.</p> <p>[Action: Concerned State DGMS]</p>
45.6.18	<p>Regarding para 44.5.10 on involving university students in data bank preparation, soft copy conversion, GCM etc. Member Secretary informed that the Ministry of Mines is guiding GSI on the modalities of the proposal.</p> <p>[Action: MoM]</p>
45.6.19	<p>Regarding para 44.5.11 on forest issues the Member Secretary clarified that at present approval exists for drilling 20 – 25 boreholes per 10 sq km in place of previous norm of 10 boreholes per 100 sq km but the problem remains with the existing permission of 4" borehole diameter with which exploratory work can be done only up to 300m. He opined that further modification of rules allowing up to 20-25 boreholes per sq km and at least 8" borehole diameter is needed. Director (Tech.), MOM informed that a DO letter on 30.4.09 has been furnished to MOEF enclosing a note on geoscientific activities of GSI.</p> <p>[Action: MoM]</p> <p>Reacting to the issue representative of DGM, Andhra Pradesh opined that Govt. has given guidelines for metallic minerals but not for non-metallic minerals. The same number should be considered for non-metallic minerals also.</p> <p>Additional Secretary (Mines) commented that the issue is restricted to prospecting only and mining would have to be dealt with separately. The prospecting should not involve cutting of trees. He also stated that whenever the field parties enter forest areas, due intimation should be given to the forest officials concerned and NOC etc. obtained as per State level procedures even if no permission under FC Act was involved.</p> <p>[Action: All concerned]</p>
45.6.20	<p>On para 44.5.12 regarding online tenement registry, representative of DGM, Andhra Pradesh informed that minor mineral tenement registry is to</p>

	<p>be undertaken along with the major minerals as they are overlapping at many places. He also commented that while granting lease, 'Khasra' record has to be consulted as that gives land record. He pointed out that the IBM's work is to standardize the tenement system but major work lies with the State Government, who is the owner of the cadastral data.</p> <p style="text-align: right;">[Action: IBM/ All State DGMs]</p> <p>Representative of IBM informed that they will discuss the issue at a later date once the two pilot projects launched by them is completed.</p> <p>Representative of Government of Karnataka informed that the land records had been digitized in their state and the state has purchased the 'Quickbird' images and will start the online tenement work soon.</p>
45.6.21	<p>On para 44.5.16 regarding exploration for gold in Wynad – Nilambur area by GSI, Member Secretary informed that the work could not be taken up as no feedback was received from DGM, Kerala on forest issues.</p> <p>Additional Secretary (Mines) asked GSI to pursue the matter with the Forest Department regarding ecological sensitivity of the area.</p> <p style="text-align: right;">[Action: DGM, Kerala]</p>
45.6.22	<p>On para 44.5.17 regarding handing over of fund to Nagaland Government by MECL for exploration of Nimi limestone, representative of MECL opined that the revised cost of exploration has to be approved by MoM.</p> <p>In response Director, MoM (M-I) informed that the proposal is under active consideration in the MoM and will be cleared soon.</p> <p style="text-align: right;">[Action: MoM]</p>
45.6.23	<p>In response to para 44.5.19 regarding supply of geological reports of coal free of cost for the promotional items, Member Secretary opined that Director, Technical, MoM should take care of the issue at the earliest.</p> <p>Additional Secretary (Mines) remarked that if any state had any problem in getting the report, they could approach MoM for taking up the issue with the Ministry of Coal.</p> <p style="text-align: right;">[Action: MoM/ MoC / State DGMs]</p>
45.6.24	<p>On para 44.5.20 regarding taking up of investigation of industrial minerals Additional Secretary (Mines) remarked that discussions should have been done much before the field season. If any item has not been accommodated in the present season, it can be taken up during the next season. He advised that the states should continue to bring their items again and again till they were accommodated. He also suggested that data generated by RP holders should be made available after the lock in period and GSI has to do a lot of work on this front. Some members desired that MoM should issue guideline in this regard so that appropriate action can be taken in this regard. Additional Secretary (Mines) agreed that the guidelines should be given laying down the responsibilities of the concerned State Govt., IBM and</p>

	GSI. <p style="text-align: right;">[Action: MoM/ State DGMs]</p>
45.6.25	Regarding para 44.5.21 on exploration for high grade limestone in Garo Hills, Meghalaya by MECL, representative of MECL informed that a copy of the report has been handed over to DGM, Meghalaya. Representative of DGM Meghalaya confirmed that the report has been received.
45.6.26	On para 44.5.23 regarding strengthening of GSI Training Institute, representative of Himachal Pradesh requested GSI for setting up of a training centre at Saketi as the land had been provided by the Government of Himachal Pradesh. On this Member Secretary informed that a request had been submitted to the Government of Himachal Pradesh to give clearance for setting up of a hostel for the trainees. <p style="text-align: right;">[Action: DGM, Himachal Pradesh]</p> Additional Secretary (Mines) informed that GSI Training Institute has been reorganized and advised the states to participate in the training programmes of GSI Training Institute free of cost from the Field Season Year 2009 – 10. He further informed that the calendar of training institute is available on the GSI portal and for any customized programme the proposal may be submitted through SGPB for consideration by GSI. <p style="text-align: right;">[Action: All State DGMs]</p> Representative of Jammu and Kashmir requested GSI to reopen the GSI Training centre at Aishmuqam. Reacting to the proposal Deputy Director General, GSI Training Institute stated that a visit would be made to the area to assess the ground situation before taking a decision in the matter. <p style="text-align: right;">[Action: GSI]</p> Representative of Andhra Pradesh opined that GSI courses should be recognized as degree course by the Universities. Deputy Director General, GSI Training Institute stated that as per the HPC recommendation GSITI should be made a center of excellence and AICTE accreditation is being tried for four training courses of GSI Training Institute. Representative of Geological Society of India opined that member from private sector should also be invited as guest faculty for GSI Training Institute. Additional Secretary (Mines) stated that faculty from Private sector is welcome and invited faculty bio-data for different fields. Member Secretary requested the private companies to furnish the list of experts for making a databank by GSITI for utilizing their expertise. <p style="text-align: right;">[Action: All Stakeholders]</p>
45.6.27	Regarding para 44.5.28 on assessment of reserves / resources of low grade phosphate, Member Secretary informed that phosphate investigation has been taken up in Madhya Pradesh, Gujarat and Chhattisgarh and will be extended to Rajasthan in future. <p style="text-align: right;">[Action: GSI]</p>

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45.6.28	On para 44.5.34 regarding detailed geological mapping of Urban Agglomeration of 5 cities on 1:10,000 scale, Member Secretary informed that IMD was to finalize the proposal. As representative of IMD was absent in the meeting, Director (P&M) GSI informed that IMD desired to take up studies for 36 cities at one go and was floating a global tender for the purpose.
45.6.29	On para 44.5.36 regarding engineering studies for underground crude oil storage facility at Mangalore and Visakapatnam, Member Secretary informed that the work has been completed by GSI.
45.6.30	Regarding para 44.5.38 on catchment area studies of Dibang Multipurpose Project, Member Secretary informed that a project on photogeological interpretation and Landslide Hazard Zonation in Dibang Multipurpose Project has been undertaken during the Field Season 2009 –10 at the request of NHPC.
45.6.31	On para 44.5.40 regarding exchange of all reports between GSI and the state DGMs, Member Secretary informed that the GSI reports will be available on GSI portal.
45.6.32	Regarding para 44.5.41 on taking up projects related to health hazards in the state of Chhattisgarh, Member Secretary informed that representative of DGM Chhattisgarh discussed the issue with GSI local office and DGM Chattisgarh is preparing an inventory of health hazards due to geological features in Chhattisgarh. Further action plan can be prepared based on this data.
45.6.33	On para 44.5.44 regarding bilateral interaction on various issues between DGH and GSI, Member Secretary informed that DGH has been informed but no response has been received from DGH.
45.6.34	<p>Regarding para 44.5.50 on geochemical mapping and strengthening of state DGMs it was informed by representatives of several states (Andhra Pradesh, Rajasthan, etc) that they are in the process of recruitment of personnel and would collaborate with GSI in GCM programme.</p> <p>Additional Secretary (Mines) commented that capacity has to be improved and informed that a letter has been written by MoM to the State Governments of NER to strengthen their DGMs. He further requested all DGMs to arrange for mapping, training etc.</p> <p>Representative of J and K requested that a similar letter be written to the Government of J and K to which Additional Secretary (Mines) pointed out that letters were written to the Chief Secretaries of all States, however in case it was not written to J and K, the letter will be written soon. He also advised that since royalty rates had been revised upward, the States should plough back part of the royalty into recruitment to strengthen their DGMs.</p> <p>Representative of Sikkim stated that they have sufficient manpower but</p>

	<p>require financial support. Additional Secretary (Mines) offered technical and training support by MoM and urged the Planning Commission to look into the issue of financial support.</p> <p>[Action: All State DGMs /MoM/Planning Commission]</p>
45.6.35	<p>Regarding para 44.5.51 on geomorphological and hyperspectral mapping by GSI and ISRO, launching a satellite by ISRO exclusively for geological applications, Member Secretary informed that geomorphological and hyperspectral mapping will start from the Field Season 2009 – 10. He further informed that regarding exclusive satellite / dedicated payload for geological applications; GSI and NNRMS are working out the sensor requirements for mineral mapping.</p> <p>[Action: GSI/NNRMS]</p>
45.6.36	<p>Regarding para 44.5.52 on willingness to become members of a particular committee of CGPB based on activity domain, Member Secretary informed that a good response has been received from all concerned in this regard.</p>
45.6.37	<p>Regarding para 44.5.55 on issues arising out of National Mineral Policy 2008, Member Secretary informed that a meeting was convened by MoM along with GSI, IBM and Planning Commission where a set of decisions were taken which will be followed up.</p> <p>[Action: MoM/GSI/IBM/Planning Commission]</p>
45.6.38	<p>On para 44.5.56 regarding simplified process for granting PL in coal blocks in a time bound manner, Member Secretary informed that a consultation meeting was held between MoC with the coal producing states but the action taken on the issue has not been received from MoC.</p> <p>[Action: MoC]</p>
45.6.39	<p>On para 44.5.57 regarding supply of depleted lignite resource data to NLC Member Secretary pointed out that Rajasthan and Gujarat are providing data to NLC.</p> <p>Reacting to the statement representative of NLC informed that though Rajasthan and Gujarat are providing data to NLC, it is not in proper format and not being sent timely.</p> <p>Additional Secretary (Mines) requested that the data be provided in time and in the manner desired.</p> <p>[Action: DGMs Gujarat/Rajasthan]</p>
45.6.40	<p>On para 44.5.58 regarding repeat electrical resistivity survey in the coastal region between Pondichery up to Coleroon river in Tamilnadu, Member Secretary informed that a programme on this topic has been undertaken during the Field Season 2009 – 10.</p>
45.6.41	<p>Regarding para 44.5.59 on supply of Geological Report of GSI for integrated Lignite Resources Information System (ILRIS) project, Member</p>

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	<p>Secretary informed that the reports would be disseminated as per the existing procedure. On this the Additional Secretary (Mines) informed that consequent upon restructuring of GSI, the GSI Regions would be engaged in all activities of GSI and will be functioning as mini GSI. The data management would also be with the regions and the interactions of states with GSI are likely to improve. Data will be available for dissemination from state units of GSI and the reports would be available.</p> <p>[Action: GSI]</p>
45.6.42	<p>On the question of availability of large-scale maps on the GSI portal, the Member Secretary informed that it would be done during the next phase. The gravity data will not be available on the portal for the time being due to security restrictions from the Ministry of Defence.</p>
45.6.43	<p>On para 44.5.60 regarding providing technical guidance by GSI in exploring occurrences of copper, lead and gold in the state of J and K Member Secretary informed that DGM, J and K has been requested to prepare the details of the programme and GSI will provide technical guidance.</p> <p>[Action: DGM, J and K]</p>
45.6.44	<p>On para 44.5.61 regarding training of mining geologists of IBM and capsule courses for State Departments in GSI Training Institute, Member Secretary informed that a course on conceptual ore modeling and UNFC have been introduced in the Field Season 2009 –10. As regards capsule course GSI will make tailor made course(s) on receipt of specific request.</p>
45.6.45	<p>On para 44.5.68 regarding notification of mineral bearing areas in the state of Karnataka Member Secretary informed that DGM Karnataka is the authority to demarcate and notify mineral bearing areas in the state. GSI will extend necessary support.</p> <p>[Action: DGM, Karnataka]</p>
45.6.46	<p>Regarding para 44.5.69 on studies of heavy minerals/sea bed deposits along Karnataka coast and its potentiality, Member Secretary informed that GSI has included a programme on the the topic during the Field Season 2009 – 10.</p>
45.6.47	<p>Regarding para 44.5.70 on exploration of untouched deposits of low grade iron ores along the Kudremukh and Bababudan regions, Member Secretary informed that DGM Karnataka is of the opinion that the area falls under the ever green forest of Western Ghat. A special Task Force has been framed to tackle about the matters related to Bio diversity in the region.</p>
45.6.48	<p>In response to para 44.5.72 regarding detailed exploration vis-à-vis forest problem raised by SCCL, Member Secretary informed that a meeting with MoEF scheduled to be held was cancelled due to sad demise of Andhra</p>

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	<p>Pradesh Chief Minister.</p> <p>Additional Secretary (Mines) pointed out that MoM is trying to take up the issue with MOEF. He requested SCCL to take up the issue with their administrative ministry.</p> <p>[Action: MoM/SCCL]</p>
45.6.49	<p>In response to para 44.5.73 on long-term collaboration for GCM work in Gujarat raised by CGM Gujarat, Member Secretary pointed out that GSI has proposed the programme in response to MoU communicated to GSI by CGM Gujarat.</p>
45.6.50	<p>On para 44.5.74 on long-term collaborative exploration programme in Gujarat state, CGM Gujarat has communicated that that the issue has been discussed in the SGPB meeting.</p>
45.6.51	<p>On para 44.5.75 regarding policy decision on GSI's request for reservation of an area where RP is already given or RP applied for MoM commented that once an approval is accorded and communicated to State Government a copy of the letter will be endorsed to GSI. GSI may however approach the State Government concerned and request for reconsideration under Rule 74 of MCR, 1960.</p> <p>[Action: GSI/All State Governments]</p>
45.6.52	<p>In response to para 44.5.76 regarding examination of flux grade alkali limestone deposits of Karnataka for use in steel industry and approval for deep drilling exploration for various metallic minerals, Member Secretary informed that GSI has already finalized the programme for the Field Season 2009 – 10. As regards analysis of alkali content of limestone, he offered to get the samples tested in GSI laboratories. He also offered to guide the officers of Karnataka in sample collection. He informed that GSI at present is engaged in shallow drilling and deep drilling has been reserved for coal and base metal exploration in Rajasthan. Deep drilling in Karnataka would be taken up at a later date.</p> <p>[Action: DGM Karnataka/GSI]</p>
45.6.53	<p>On para 44.5.77 regarding declaration of DGM Nagaland as nodal agency for geotechnical and landslide investigation in the state of Nagaland and preparation of detailed project for preparatory model coal mine in the state of Nagaland, Director (Technical), MoM informed that a course on landslide has been conducted in NER and given free of cost.</p> <p>Member Secretary requested to intimate GSI Training Institute for training of personnel on landslide.</p> <p>Regarding preparatory model coal mine MoM has written a letter to MoC requesting to prepare a detailed project for developing a model coal mine in the state of Nagaland.</p> <p>[Action: MoC]</p>

45.6.54	On para 44.6.01 regarding sharing of GSI data and maps free of cost Member Secretary informed that MoM has given approval for exchange of data between Government of India Organisations like GSI and AMD ensuring that the data is not passed on to any other agency.
45.7.00	RELEASE OF BOOK ON GLACIAL INVENTORY
45.7.01	Additional Secretary (mines) released a book on Inventory of Himalayan Glaciers. Member Secretary appreciated the efforts made by Shri R.K.Singh, Senior Deputy Director General, GSI and Shri C.V. Sangewar, Director, GSI for bringing out this publication.
45.8.00	REVIEW OF ACTIVITIES OF GEOLOGICAL SURVEY OF INDIA DURING 2008-09.
45.8.01	Shri N. K. Dutta, Director General (Current Charge), GSI, presented the highlights of the activities and achievements of GSI for the year 2008–2009. He informed the house that the present meeting is the first annual meeting after the revamping of the CGPB.
45.8.02	Director General (Current Charge) mentioned that the Central Geological Programming Board is instrumental in geological programming of the country. He informed the house that CGPB functions through twelve Committees and requested all to participate actively and interact during the committee meetings.
45.8.03	He informed that the current Field Season Year was quite challenging for GSI as a number of path breaking decisions were taken with the concurrence and active support from the Ministry of Mines, the most important of which was granting GSI the status of an ‘Attached Office’. He appreciated the initiative taken by Additional Secretary (Mines) for improving the functioning of GSI. He assured the house that GSI would do its best to fulfill the aspirations of all stakeholders.
45.8.04	GSI is in the process of re-organizing its structure and functioning in the proposed Mission-Region Hybrid matrix. He informed the house that resolution on revamping of CGPB and its 12 Committees, and new Vision and Charter for GSI have been notified; new guidelines for dissemination and pricing policy of published/ unpublished reports/ map data product announced; training fee totally waived for State and Central Government officials; resolution on revamping and constitution of TPCC-training infrastructure in GSI notified and various other techno-administrative decisions taken to make GSI a responsible facilitator. The first meeting of all the 12 newly constituted committees was held in July – August, 2009, he added. He hoped that in future more and more stakeholders will participate in the committee meetings.
45.8.05	He informed the house that GSI was working in a restrictive policy framework but during the last one year the organization is changing its tune

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	<p>with the liberal policy initiatives. The problem of human resources in the organization has been the greatest constraint in achieving the desired targets, moreover GSI being primarily a field based activity oriented organization very few people in the department are trained to cater to the desired requirements to implement all the changes, he added.</p>
45.8.06	<p>GSI has proposed several initiatives to address the human resource crunch, like filling up of sanctioned strength through UPSC; outsourcing of services. GSI proposes to engage post graduate geologist as 'Research Associate' on contract basis for 2-3 years as per the stipulations of DST/ CSIR with commensurate stipend. Services of these students can be utilised in the geochemical Mapping Program of GSI. GSI is also planning to outsource knowledge through re-deployment of some of its retired geoscientists as consultants or advisors for 2-3 years so that they can pass on their knowledge to the mid-career level scientists of GSI, particularly in the fields of exploration and specialized investigations, he opined.</p>
45.8.07	<p>GSI has a large volume of documents including various types of publications, reports and maps that are to be made suitable for uploading. As per the recommendation of the HPC for segregating the 'content' and 'container' service, GSI is looking for suitable agencies to maintain/ upgrade its IT infrastructure and connectivity so that GSI scientists can take care of the scientific content part of GSI portal, he added.</p>
45.8.08	<p>He expressed that the CGPB Committee on Fundamental & Multidisciplinary Geoscience and Geoinformatics and Data Management are very vital for opening up of GSI in the national arena through collaborative projects. GSI has entered into an MOU with De Beers for Deep Geology studies through MT surveys in all the Cratons of India; will take up projects with NIC on geospatial data management and invited ONGC, NGRI and other sister organizations for similar collaboration. GSI will collaborate with ISRO on Geomorphological mapping of the entire country through remote sensing and a pilot project in hyperspectral mapping, he informed.</p>
45.8.09	<p>An area of about 50 sq. km has been covered by Systematic Geological Mapping in Mokokchung, Longleng and Tuensang districts of Nagaland making the total coverage to 3.09253 million sq.km which is about 98.3% of the total mappable area.</p>
45.8.10	<p>About 1, 62,940 sq km area encompassing 227 toposheets has been covered systematically under the "National Geochemical Mapping Programme". From the analytical results, elemental contour maps along with statistical determinations are being studied under GIS platform.</p>
45.8.11	<p>An area of 6,123 sq.km has been covered by Specialised Thematic Mapping during the current field season raising the total coverage to 1,39,591.5 sq. km.</p>
45.8.12	<p>During field season 2008-2009, a total of 11 investigations were taken up by different Regions under Geophysical (gravity-magnetic) Mapping. A</p>

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	total of 19,935 sq km occupying about 7600 G-M stations have been covered by geophysical mapping.
45.8.13	Aerogeophysical survey was carried out using multi sensors over 24,101 line km covering an area of 12050 sq km.
45.8.14	Till the Field Season 2008 – 09 GSI has completed seabed mapping of 19,75,364 sq km within EEZ including TW and 1,27,046 sq km in TW. Beyond TW the coverage of EEZ is 18,48,318 sq km.
45.8.15	During the field season 2008-09 GSI augmented the resource for coal, gold, basemetal, iron ore and manganese. Mineral search and assessment is undertaken with special emphasis on deficient commodity of high value (e.g. gold, diamond, PGE etc.), strategic minerals (molybdenum, tungsten), fertilizer mineral (phosphorite and potash) as well as ores and minerals of high demand (basemetal, ferrous minerals, coal, lignite, limestone etc.).
45.8.16	Iron ore investigation in Orissa indicated a resources of (0.1 million tonnes at 55% cutoff. In Tamilnadu several BMQ bands have been sampled systematically. Iron ore investigation SSE of Khetri copper belt in Rajasthan based on aeromagnetic anomaly.
45.8.18	Manganese exploration in Orissa led to the re-estimation of resource to 0.66mt at 20% Mn cutoff in Bolani block. A tentative resource of 0.94 million tonnes at 20% Mn cutoff has been estimated in Damurda (North) block of Orissa.
45.8.19	Investigation for basemetal mineralization in Salampura Block, Pur-Banera Belt, Bhilwara district and Panchokharkhara area, Sikar district Rajasthan has been completed and several mineralized zones with anomalous values of Pb and Zn were identified. Cu mineralization has also been recorded from the boreholes drilled in the area. Grab samples from Kalalikhera Block of Bhilwara district indicated anomalous basemetal values. Low grade copper mineralized zone has been established at Gangutana, Mahendragarh district, Haryana. A resource of 2.128 million tonnes at 0.4% Cu has been estimated over a strike length of 800m. Investigation in Khirki-Kaneri, Borkhap and Jangaldehyri area, Chhindwara district indicated encouraging zinc values in grab samples. One borehole drilled in the area delineated twelve zones of mineralization varying in thickness from 0.35m to 4.00m with zinc value ranging from 0.28% to 5.73%.
45.8.20	Concept oriented exploration for molybdenum in Dharampuri district of Tamilnadu resulted in the identification of a number of molybdenum bearing quartz veins in the shear zones.
45.8.21	Exploration for gold in Ajjanahalli Block-C, Tumkur district yielded gold value ranging from 0.10 g/t to 4.22 g/t. in bedrock and 0.36 g/t to 6.0 g/t. in trench samples. In Ajjanahalli block-F, three major auriferous BIF bands have been delineated with gold values ranging from 1.02 to 2.2 g/t.; 0.28 to 1.70 g/t. and 0.03 to 0.70g/t. On the basis of analytical result a resource of 22.97million tonnes of gold ore with 1.81 g/t Au has been estimated in

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	Delwara West block. The total gold resource of Bhukia gold prospect has been augmented from 60.58million tonnes to 83.55 million tonnes with average grade of 1.87g/t Au. A tentative resource of 0.053 million tonnes gold ore with an average grade of 3.03 g/t Au has been estimated in the Proterozoic rocks of Sonapahari area, Sonbhadra district, Uttar Pradesh. Investigation for gold mineralization in Sonadehi gold prospect Chhattisgarh, revealed a resource of 2.28 million tonnes with 0.699 g/t gold.
45.8.22	Search for kimberlite in Buthpur and Achampet block in Mahbubnagar district Andhra Pradesh, yielded kimberlite specific minerals like picro-ilmenite and chrome-spinel in stream sediment samples from Palkampally, Wattipalli and Kottapalli. Kimberlite specific minerals like chrome spinel has also been recorded from Kalwakurthi and Charakunda block in Mahbubnagar and Nalgonda districts.
45.8.23	PGE bearing zone with Pt value ranging from 42 to 601 ppb and Pd from 92 to 1575 ppb have been demarcated in Mettupalaiyam Ultramafic Complex, Tamilnadu. A mineralized zone with high value of PGE (277 ppb Pt and 698 ppb Pd) has been traced for about 100m in Mallanayakapuram area. In Chettiampalaiyam block of Sittampundi Layered Complex, Tamil Nadu PGE mineralization with average grade of 0.91 ppm Pt + 0.77ppm Pd and 1.76 ppm Pt + 1.72ppm Pd has been recorded. PGE mineralized zone with 1.62 ppm Pt + 0.31ppm Pd was traced for 300m. In Maharashtra, samples of pyroxenite from Heti area have analyzed 35-95 ppb Pd, 11-78 ppb Pt.
45.8. 24	Investigation for fertilizer minerals was undertaken in Purulia district of West Bengal. A mineralized body with 130m strike lenth analyzing 20% P ₂ O ₅ has been traced in Belaidih block.
45.8. 25	Limestone bands of SMS grade varying in thickness from 0.24m to 7.50m have been recorded in Minyun Ki Dhani block, Jaisalmir district, Rajasthan.
45.8. 26	Twenty two items (including 7 under promotional schemes) of exploration of coal was undertaken in different Gondwana basins. Three items for exploration of lignite (all promotional) are continuing. The promotional items are sponsored by the Ministry of Coal. An additional resource of 1638.52 million tonnes of coal and 0.19 million tonne of lignite has been assessed. The geological resources of Coal now stand at 267.21 billion tonnes and that of lignite at 39.07 billion tonnes as on 01.04.2009. CBM study for determination of in-situ gas content has been carried out under promotional scheme in seven boreholes. Gas desorption studies show very incipient gas content (<1.0cc/gm) in all the Coal/Lignite fields except Sohagpur (around 2.0cc/gm). The relatively higher gas content in Sohagpur has been attributed to higher thermal maturity of the coal.
45.8. 27	Geological Survey of India plays a pivotal role in the compilation and dissemination of geological data through publication of geological and

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	thematic maps on different scales; publication of departmental documents; dissemination of information via GSI portal and displaying the activity by participating in different exhibitions.
45.8. 28	Geological maps on 1:50K scale were compiled at regional level. A total 1843 maps on 1: 50K scale have been uploaded in the portal till August, 2009. Two hundred and ninety two Geological Quadrangle Maps have been published till date. Geological and Mineral Map of States (Scale 1:2M), are updated regularly. Spatial database with relevant attribute information have been built during the period with an aim to add two new layers for the existing 1:2 M map service. Seven District Resource Maps of Eastern Region and one map of Southern Region have been published during the period. Compilation of one territorial water map of Bay of Bengal has been taken up. Compilation of Quaternary Geological Atlas of India is continuing. A special task force is formed to look into the editing and scrutiny of maps and texts to bring out the atlas.
45.8. 29	Regular publications are brought out from the Department under different categories. All the published as well as unpublished data (barring those prevented by the confidentiality clause) are being uploaded to the GSI Portal. The Central Library added books, Journals of National and International origin, unpublished Technical Reports of GSI and its sister organizations to its repository.
45.8. 30	GSI NET and the GSI Enterprise Portal (http://www.portal.gsi.gov.in) is functioning satisfactorily. Emphasis has been given on regular content management and on keeping the portal available 24X7 over the Internet. LIBSYS - the web-compatible network version of Library Management software has started functioning. Database on 800 GSI publications have been edited and 409 of them have been entered into TEXTTO software towards metadata preparation. GSI Net is operational except in Southern Region, Training Institute, Pune office (OP: Maharashtra West), Itanagar (OP: Arunachal Pradesh). It is expected that Pune, Dimapur and Hyderabad offices will be connected very shortly.
45.8. 31	Vast volume of data is being generated by analysis of samples collected through National Geochemical Mapping programme. Toposheet-wise database is being built on Microsoft Excel platform for archiving this data which will be integrated with GSI Portal in due course.
45.8. 32	Curatorial Division of GSI has put up 8 major Earth Science Exhibitions for providing information on earth science and of the department's activity.
45.8. 33	Five items of active fault mapping and three items of seismic microzonation were undertaken in addition to other earthquake related studies.
45.8. 34	A MoU was signed between GSI and three U.S. Universities, for undertaking a collaborative project, titled 'Study of Rotation, Fragmentation and Flexure at the Northeast corner of the Indian Plate'. The objective of the project is to carry out an integrated earthquake hazard

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	assessment of Northeast India. As part of the collaborative project preliminary fieldwork was carried out in parts of Arunachal Pradesh, Assam and Meghalaya. One GPS station was established at Mawriang, near Dauki, Meghalaya where data was recorded continuously for six days.
45.8. 35	The Seismic observatories of GSI are continuously recording global, regional and local seismic events and monthly / quarterly data has been published and distributed regularly.
45.8. 36	The permanent GPS station at Lucknow (established by DST) is engaged in round the clock monitoring of GPS data. The data was supplied regularly to National GPS Data Centre, Survey of India, Dehradun for further processing/interpretation.
45.8. 37	Earthquake database was maintained in Geodata & Database Division incorporating data from ISC source for India and adjacent areas covered by latitude 0°-37°N and longitude 68°-98°E. The database was updated by registering 6111 events for the year 2005 thus increasing the total registered events to 28,278.
45.8. 38	Thirty three items of geotechnical and engineering geological studies through 190 investigations were undertaken related to civil engineering projects for water resource development, communication and miscellaneous projects in almost all the states of the country as well as in neighboring countries.
45.8. 39	Geological Survey of India has been declared as the Nodal Agency for Landslide Investigation in the country and to develop a comprehensive strategy for the effective mitigation of Landslide Hazards in landslide prone areas. A new guideline comprising Pre-disaster and Post-disaster mitigation strategies has been released by Government of India covering Preparedness, Capacity building and Awareness generation. Detailed Project Report (DPR) for implementation of guidelines is under preparation.
45.8. 40	GSI has undertaken 20 programmes of landslide investigation in the landslide prone hilly terrain. A total of 2,195 sq km by Landslide Hazard Zonation and 572 Line kilometer road corridors have been covered on Macro Scale (1:25,000/50,000).
45.8. 41	Eleven township have been covered by Landslide Hazard Zonation on Meso Scale (1:5000/10,000) to assess the stability status of the existing thickly populated townships/important civil engineering structure etc. in the landslide prone hilly terrain.
45.8. 42	Landslide Inventory has been taken up for all old and fresh landslides for their documentation throughout the country. Detailed site specific studies of three landslides have been carried out.
45.8. 43	With a view to monitor a few conspicuous landslides to develop an Early Warning System for saving lives and property, GSI has undertaken three collaborative Pilot Projects with Geological Survey of Canada for detailed

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	slope stability analysis by Real Time Monitoring. Besides, GSI has also undertaken two Research Projects in collaboration with ITC, Netherlands in the eastern Himalaya and southern part of India.
45.8. 44	Geological Survey of India took up twenty nine items as part of multi-disciplinary geosciences and special studies. These investigations include Environmental Geology (3 items), Medical Geology (6 items), Climate Change Impact and Fragile Eco-Systems (3 items), Glaciology (4 items including one additional item) and one item on Environmental Geological Assessment of the Jaipur region. Besides these, three items on syn-exploration baseline geoenvironmental data generation (SBDG) during exploration for coal were also taken up.
45.8. 45	Regional geoenvironmental impact assessment of limestone mines and cement plants in Chittorgarh, Sirohi, Pali, Jodhpur and Nagaur districts, Rajasthan and formulation of effective environmental management plans; geoenvironmental appraisal in parts of Sohagpur coalfield, Madhya Pradesh and geoenvironmental impact on rapid urbanization of Berhampur – Murshidabad township and their environs in West Bengal were taken up.
45.8. 46	Study of incidence of arsenic in groundwater in parts of Saran and Vaishali districts, Bihar reveals that the older alluvium is free from hazardous incidence while the younger alluvium contains higher arsenic values in groundwater.
45.8. 47	Development of a mitigation strategy to manage risk from arsenic toxicity in groundwater of West Bengal was continued in collaboration with NR-Can, Geological Survey of Canada.
45.8. 48	Glacio-geomorphological mapping covering an area of 0.50 sq km has been undertaken on the both the banks of melt water stream of the Hamtah glacier, Lahul – Spiti district. Monitoring of glacier snout on 1:5000 scale has shown that the glacier has vacated an area of 0.006 km ² since 2007. During the last eight years 2000 – 08, the glacier has vacated an area of 0.0346 km ² with an average of 0.0043 km ² /year.
45.8. 49	GSI has been continuing with its Antarctic studies programme and till date more than 19000 sq km area has been mapped with the help of ground traverses. During the 28 th expedition (2008-09) GSI have mapped around 250 sq km area in the Gjelsvikfjella region using the Norwegian station TROLL as base.
45.8. 50	Monitoring of the snout of “Dakshin Gangotri Glacier” overriding the southern edge of Schirmacher Oasis has shown a consistent recession (1.09 m during 2008-2009) which has been partly attributed to changes in the global climate pattern. During the same period the drift snow accumulation over the shelf has been recorded as 89.5 cm. GSI started drilling for retrieving ice cores to study the palaeoclimate of the area and embarked on the study of sediments from the lake bottoms of Antarctic lakes and GPR studies to draw profiles of lakes as well as to determine the ice Land-Ice-

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	Sea interface.
45.8. 51	GSI started mapping the proposed third research station site at Larsemann Hills region, Prydz Bay area of East Antarctica and a geological map has been prepared for a portion of the area around the proposed new station. GSI has completed two expeditions to the Arctic Circle and is continuing glaciological studies in the region.
45.8. 52	Induction of the state-of- the-art instrumental facilities in the fields of Petrology, Geochronology and Isotope Geology, Paleontology, Photogeology and Remote Sensing, Geophysics, Mineral Physics, Analytical Chemistry etc. resulted in generation of precise analytical database. Input from Electron Probe Micro Analyses, Fluid inclusion study, Optically Stimulated Luminescence (OSL) dating etc. has been widely and effectively used in different research projects as well as in STM and metallogenic projects.
45.8. 53	Basic petrological researches are pursued in various laboratories of GSI which comprise fundamental petrological problems in the Indian context. Petrological input in different mineral investigations have been attempted to utilize in unraveling the ore forming process and deposit modeling. The major domains of these activities were on crustal evolution, metallogeny, volcanism, evolution of sedimentary basins through time and space, experimental petrology, climatic change and responses of environment system, studies on geological health hazard and remedies etc.
45.8. 54	Signatures of palaeo tsunamis in the Andaman group of Islands are recorded by depositional as well as erosional features. Three types of depositional features of palaeo tsunami are established viz., i) sand-mud couplets ii) anomalous boulder deposits and iii) exotic coral fragments. Erosional evidence of palaeo tsunami is represented by bed rock sculpturing formed by erosion of bed rock and/ or cavitations associated with turbulent vortices during tsunami run up.’
45.8. 55	The study of the geological and geomorphological determinants of the characteristics of present day beaches in Andaman Island for coastal management identified that both the sea and hinterland are the possible source of stress on the target beaches. The Betapur beach in Middle Andaman appears to be vulnerable in respect of effects of sea induced stress. Corbyn’s Cove beach of South Andaman and Wandoor beach close to Port Blair are more susceptible to stress from hinterland due to man induced process.
45.8. 56	Palaeontological and palaeobiological studies for stratigraphic correlation and records of climate change revealed that there has been a three fold increase in low salinity indicator planktonic foraminifera suggesting increased monsoonal precipitation and increased runoff from Ganga-Brahmaputra river system diluting the salinity of surface layer water in the central Bay of Bengal.

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45.8. 57	Precise dating of the geological samples has been undertaken at the Geochronology and Isotope Geology Division. Regression of strontium isotopic data of six whole rock samples of Chinnapendekallu granite, Andhra Pradesh yielded a Rb – Sr whole rock isochron age of 2364Ma. Radiocarbon dating of Shell samples from Gujarat revealed an age of $29,609 \pm 320$ Ybp.
45.8. 58	Remote Sensing studies provided support to Engineering Geology projects, seismic microzonation hazard studies, urban planning, mineral exploration and environmental studies.
45.8. 59	During October, 2008 to June 2009, Chemical laboratories of GSI have carried out analysis of 72,753 geological materials of varied nature involving 5,04,085 determinations.
45.8. 60	As part of Human Resource Development GSI Training Institute (GSITI) is providing high quality cutting edge training / knowledge with state-of-the-art facilities. The Training Institute is conducting induction level course for GSI scientists, Specialized courses, International courses and Training of Trainer courses for Regional Training Centers and State Institutes. GSITI has trained geoscientists of GSI, other earth science organizations, universities of the country and also geoscientists from ESCAP and SAARC countries. The institute conducts DST supported programmes, ISRO supported Remote Sensing programmes, customized courses for other agencies and administrative courses for departmental personnel. During the Field Season GSITI conducted orientation courses for geologists, 10 scientific courses, 6 technical courses, 11 administrative courses and two sponsored courses. Five programmes have been undertaken outside Field Season Programmes.
45.8. 61	In the field of International activity GSI has continued its effort with various international governmental organisations/ scientific agencies through collaborative and bilateral exchange programmes. During the period from October 2008 to July 2009, eleven IGCP projects were in operation. The 34 th INC meeting was held at GSI, Kolkata on 28 th January 2009. Thirty six scientists participated in the meeting. Dr. Peter Bobrowsky, Secretary General, IUGS attended the meeting and addressed the participants.
45.8. 62	One hundred seventy two officers from GSI participated in 31 International / National training Programs, workshops, Fellowship/Scholarship programme and Seminar/ Symposia/Conventions.
45.8.63	Several collaborative programmes / MoU's were signed which include India - Canada, India – Netherlands, India – USA, India – Australia, India – Bhutan, India - Argentina, India – Chile, India – South Africa etc. covering mineral exploration, environmental geology, landslide monitoring, research projects etc.
45.9.00	DEMONSTRATION OF GSI PORTAL

45.9.01	Deputy Director General (IT) GSI and his team made a presentation of GSI portal live in the Meeting Hall highlighting the facilities and provisions of information available online.
45.10.00	ADDRESS OF THE CHAIRPERSON, CGPB
45.10.01	<p>Ms. Santha Sheela Nair, Secretary to Government of India and Chairperson, CGPB appreciated the audience for giving a keen and patient hearing to the informative Director General's report and the GSI portal. She however remarked that not enough content was forthcoming from the states and opined that if mineral development had to enhance, the new mineral policy has to take off and the States are to be more enthusiastic. She mentioned that in Mineral Policy the roles of GSI and IBM and States are clearly defined. It suggests taking States as partners and furthering the work. Chairperson pointed that ISRO is one organization with which GSI can take part as a partner and work together. It helps to avoid duplication and can compliment each other's work. She expressed satisfaction that the deliberations would continue for about 1½ days and requested the stakeholders to place more demands on GSI and Ministry of Mines as stakeholders and as partners of the entire programme.</p> <p>Chairperson also pointed out that the investment in GSI was for the country at large and requested the audience to evaluate the gains from the previous CGPB Meetings and the expectations from the future meeting.</p> <p>Chairperson advised the States to develop professionalism in mineral development and dissemination of their data.</p> <p>The importance of satellite data in stopping illegal mining and mineral development was emphasized and the need for reliability of data was pointed out. She hoped that fruitful projects will come in future and assured ministry's help in all worthwhile projects.</p>
45.11.00	PRESENTATION OF REPORTS OF CGPB COMMITTEES
45.11.01	Member Secretary informed the house that the revamped 12 Committees of the CGPB are functioning. He expressed happiness for conducting the first meeting of all the committees and requested the conveners to make presentation on the decisions taken in the respective committee meetings for the benefit of the house. The minutes of the committee meetings are available in the portal, he added.
45.11.02	Convener Committee – I (Ferrous Minerals) presented discussions and findings in the Committee meeting held at Bangalore on 27th and 28th July, 2009. Representative of FIMI commented that the GSI instead of spending their time and resources on blanket type deposits like iron ore etc., should concentrate on other difficult mineral investigations. Member Secretary replied that many state governments request to take up such items and GSI cannot ignore their request. It was also informed that this type of investigations form only 10% of total investigations being taken up the department. Moreover, this type of iron ore investigations is necessary as

	<p>the science and knowledge should be transmitted to the younger generations at a later date. The important recommendations made by the Committee includes -</p> <ul style="list-style-type: none"> (a) All the State DGMs to provide the details about green field and lease hold status (RP, PL & ML) to IBM as well as to GSI (b) All State DGMs to send the minutes of the SGPB meetings so that the same could be considered by CGPB. (c) State DGMs to formulate a five year rolling plan as is being introduced in GSI and preparation of investigation status map should be commodity wise and state wise and in GIS mode. (d) State Government departments and Private agencies to come forward on the issue of preparation of investigation status map and structure and genesis of ore deposits to be considered as prime factor for exploration of any ore deposit. (e) The optimum values of other constituents may be considered when fixing threshold value of any mineral commodity. (f) At least 5-10% of iron ore samples may be tested for gold and in case of encouraging results may be intimated to other Committee pertaining to precious minerals. (g) For use of low grade iron ore and iron ore fines, more technology has to be developed and lab scale- cum- commercial/ industrial scale pilot plant may be tested. (h) Possibility inclusion of other related elements in this group may be thought of. (i) Portal of all the State Governments may be linked up with GSI portal. <p>Reacting to the committee recommendation Jt. Secretary (Mines) was of the view that reassessment of reserves of low grade iron should be a priority area.</p> <p>Member Secretary opined that for lease- hold areas, IBM should formulate a policy while for free- hold areas, GSI would do the needful.</p> <p>Additional Secretary (Mines) advised GSI to prioritize the areas keeping in view its manpower and financial resources.</p> <p>Representative of Andhra Pradesh informed that all iron ore areas in the state are with private entrepreneurs.</p> <p style="text-align: right;">[Action : GSI/IBM/All Members]</p>
45.11.03	<p>Convener Committee – II (Precious Metals and Minerals) presented the recommendations of the meeting held at Hyderabad on 6th and 7th July, 2009 which includes –</p> <ul style="list-style-type: none"> (a) A dossier on Mafic and Ultramafic complexes of the entire country has to be prepared to spot PGE exploration target areas.

	<p>(b) All members to prepare 3 year and 5 year rolling plans and adopt scientific mining.</p> <p>(c) GSI and DGMs may launch field programmes in a collaborative mode in marginal basins for kimberlite and DGMs may seek help from GSI for laboratory facilities and field training.</p> <p>(d) DGMs shall provide coordinates of RP and PL areas so that further planning can be made by GSI.</p> <p>Representative of FIMI commented that GSI should visit new areas instead of visiting the old areas for diamond exploration.</p> <p>Representative of DGM, Rajasthan commented that GSI had discovered gold in Rajasthan during second generation mapping.</p> <p>Member Secretary clarified that GSI was engaged in systematic work to elucidate the origin of the kimberlites and to know why only some of them were diamondiferous.</p> <p>Reacting to the discussion Additional Secretary (Mines) informed that GSI will continue to do regional surveys and advised GSI to set up a time frame for its exploration activities.</p> <p style="text-align: right;">[Action : GSI]</p>
45.11.04	<p>Convener Committee - III (Non-Ferrous & Strategic Minerals) presented discussions and recommendations made in the meeting held at Jaipur on 9th July, 2009. Conveying the MoM's feeling to extend training facilities and technical know how of exploration work to the interested parties, he reiterated that –</p> <p>(a) To achieve the goals set for the committee participation of the member organizations is a pre-requisite.</p> <p>(b) Presentations should be made in an explicit manner with display of maps, sections, analytical data etc.</p>
45.11.05	<p>Convener Committee - IV (Industrial and Fertiliser Minerals) presented discussions of meeting held at Nagpur. The committee resolved the following points –</p> <p>(a) DGMs and other organizations to submit Five-year Rolling plan for 2009-10 onwards.</p> <p>(b) The Regional Offices of GSI and the Marine Wing to submit a Dossier on Industrial and Fertilizer Mineral deposits in their domain.</p> <p>(c) Training programmes to be arranged for young geologists for search of new Fertilizer mineral deposits if any, in the Miocene-Cretaceous terrains of the country, which show a conducive environment for phosphate precipitation.</p> <p>(d) To ensure participation from all concerned member states.</p> <p>Representative of DGM, Andhra Pradesh requested GSI to commence fertilizer mineral investigations in the Cuddapah basin in the Chelima area.</p> <p>Reacting to the discussion, Additional Secretary (Mines) stressed the need to step up indigenous fertilizer production in the country.</p> <p style="text-align: right;">[Action : GSI/ All State DGMs]</p>
45.11.06	<p>Convener Committee - V (Energy Minerals and Resources) presented the</p>

	<p>discussions and recommendations made during the meeting held at Kolkata on 16th and 17th June, 2009 which includes –</p> <ul style="list-style-type: none"> (a) All agencies were requested to initiate action for formulation of programme for XII Plan and go for deep drilling for coal exploration. GSI, as a prelude, is already drawing a comprehensive work programme. (b) At the instance of PMO followed by MoM and MoC, balance potential coal bearing area of 2791 sq km was targeted for XI Plan period extending up to 1st year of XII Plan, which should be completed. (c) Geological database generated during XI Plan are not encouraging in major parts of Barmer and Bikaner lignite basins. It was also proposed to request State Agencies and National Agencies (NLC and SCCL) to share the responsibility of regional exploration under promotional scheme to increase the pace of exploration. (d) Regarding refinement of coal resources in NER, it was decided that drilling and field investigations will be carried out by DGM Assam and DGM Nagaland, Technical support in other domains would be extended by CMPDIL, MECL and GSI. (e) Exploration programme submitted by DGM Assam was scrutinized by CMPDIL who suggested certain modification in the programme. Representative of Nagaland intimated that they have submitted their programme. <p>Representative of Government of Orissa requested to take up coal exploration studies in their state.</p> <p style="text-align: right;">[Action : All Members]</p>
45.11.07	<p>Convener Committee - VI (Marine Geology, exploration and Coastal Geoscience) presented the recommendations of the meeting held at Kochin on 5th August, 2009. He informed that GSI has handed over the data on Placer Deposits to IBM and AMD. He further informed that GSI Marine Wing would acquire new ship in the XI Plan period. The salient discussion point includes –</p> <ul style="list-style-type: none"> (a) GSI and MoES felt the need of sharing off shore data for preparation of seamless seabed maps and therefore planning to enter into a collaborative work on the Comprehensive Topographic Survey within the EEZ deploying multibeam echosounder. Representative of NIO and Indian Navy, however, opined that the data types are to be identified and clearance of MoD is to be obtained before sharing the off shore data. (b) The house suggested induction of few more members in the committee who are involved in off shore scientific activity. (c) DGH mentioned the occurrence of gas hydrate in KG offshore, Kerala-Konkan offshore and also in Andaman Sea. DGH agreed to consider the proposal of collaborative work of GSI on study of gas hydrate. (d) DGH reported oil seepage from the seabed in the KG Offshore

	<p>picked up by Synthetic Aperture Radar (SAR) satellite data.</p> <p>(e) Various organizations like NPOL, AMD, DGM, Gujarat etc. offered for collaborative work with GSI on different aspects in the marine domain. .</p> <p>(f) DGM, Orissa gave a detailed account of the coastal geomorphological studies and highlighted the problem of extensive coastal erosion along Puri-Konark belt. The Convener advised DGM Orissa to make the State Administration aware of the alarming situation.</p> <p>(g) All member organizations should interact and prepare a long term programme on crustal studies pertaining to offshore domain taking care of the ongoing programmes in the XI Plan.</p> <p>(h) As per request of DGM, Kerala, one item on offshore sand investigation has been included in the program for the Field Season 2009-10.</p> <p>Responding to the presentation, Additional Secretary (Mines) informed that as a part of restructuring the GSI, the Marine Wing, AMSE and Coal Wing would come under the control of Regions. The central facilities would manage the assets of Marine wing, AMSE etc. while work would be carried out by the regions, which will facilitate more access to states and entrepreneurs. Convener announced that GSI is in the process of procuring two ships which will facilitate more service in the EEZ.</p> <p>Representative from DGM, Andhra Pradesh enquired that as offshore mineral wealth is not under state's purview, how the studies will be beneficial to the state. Additional Secretary (Mines) clarified that Marine survey not only pertains to minerals but also can be used for coastal geomorphological studies, port development besides placer minerals and many other areas.</p>
45.11.08	<p>Convener Committee - VII (Airborne Surveys and Remote Sensing) presented discussions and findings of the meeting held at Bangalore on 17th July, 2009. He pointed out that hyperspectral and geomorphological mapping is being carried out by GSI. The recommendations drawn in the meeting includes –</p> <p>(a) The issues on Aerogeophysical data sharing, repository of data, problems in getting permissions for flying will be considered and put before High Power Committee for approval and clearance.</p> <p>(b) DGMs to submit list of RP/PL licenses issued by them to DDG, AMSE for monitoring along with a copy of license.</p> <p>(c) List of Reports, both Annual and Final, received by DGMs be made available to DDG, AMSE for assessment and archiving.</p> <p>(d) PGRS Divisions of GSI be strengthened to take up hyperspectral and geomorphological mapping along with training of officers identified for hyperspectral mapping.</p> <p>(e) Proper laboratory facility for analysis of hyperspectral data along with spectral library be created.</p> <p>(f) Proper co-ordination within GSI and other agencies be done for</p>

	<p>finalizing the areas for hyperspectral mapping and creation of spectral library.</p> <p>Responding to the presentation, Additional Secretary (Mines) stated that the regions of GSI will store and deliver the data. The data entry system was being modified so that IBM and State Governments can add /put in their data into the system.</p> <p style="text-align: right;">[Action : GSI/IBM/All State DGMs]</p>
45.11.09	<p>Convener Committee - VIII (Geology and Minerals of North Eastern Region) presented discussions and findings in the meeting held at Shillong on 27th July, 2009. The Region specific Committee is aimed at closer co-ordination and to familiarize state departments with new policy on dissemination of earth science data, which paved for liberalized data sharing.</p> <p>Representative of AMD informed that as and when required GSI will be requested to undertake shallow drilling for AMD.</p> <p>The important points emerged are –</p> <ul style="list-style-type: none"> (a) All the State Government Departments and AMD were requested to submit proposals and the areas of prioritization for heliborne survey. (b) NEC was requested to provide information to GSI regarding all projects sponsored / financed by NEC, so as to avoid duplication. (c) The State DGMs would have better access to the facility on region specific themes under the aegis of new Regional Training Centre at Shillong and proposed Field Training Centre at Aizawl. (d) NER, GSI would continue interaction with State DGMs/Agencies on important issues of mineral development and geohazards and on the availability of data as per the dissemination policy. <p>In response the Additional Secretary (Mines) advised GSI TI to conduct a course in Shillong so that participation from NER States could increase keeping the cost low.</p> <p style="text-align: right;">[Action : GSI/IBM/All State DGMs]</p>
45.11.10	<p>Convener Committee - IX (Geoscientific Investigations) presented discussions and findings in the Committee meeting held at Lucknow. The collaborative programmes under consideration includes –</p> <ul style="list-style-type: none"> (a) GSI with CPCB for study in Panki area (Kanpur) on Arsenic pollution in ground water. (b) Proposal for collaboration of GSI with NIRM and training on Engineering Geology / Geotechnical studies with a focus on Rock Mechanics; Geotechnical Laboratory studies during DPR stage; Geotechnical in-situ testing during DPR stage; dimensional stone technology; Landslide monitoring by Slope Stability Radar, Accoustic Emission and microseismic methods; DPR preparation in case of River Linking Projects etc. (c) GSI has been recognized as a repository of all data for glaciers for the country and data also received from SASE, WIHG etc. (d) The Convener urged the member organizations and permanent

	<p>invitees to ensure full participation during forthcoming meetings and announced that the Committee will hold meeting twice in a year.</p> <p>(e) Committee laid thrust on Quaternary and geomorphological mapping in relation to climate change, sea level fluctuations and glacial melting so that data could be used in multi disciplinary fields.</p> <p>(f) Patna (Bihar) and Jalandhar (Punjab) have been identified for Seismic micro zonation studies on priority basis. These cities fall under Seismic Zone IV and have over one Million population.</p> <p>(g) Human resource aspects on the specialized subjects are to be looked into.</p> <p>On the basis of request made, the Convener agreed to incorporate CWC as a member of the committee.</p> <p>Representative of DGM, West Bengal requested GSI to take up detailed studies on landslides occurrences in Darjeeling area.</p> <p>Member Secretary opined that GSI cannot undertake all the problems and requested DGM, West Bengal to get their personnel trained in GSI for undertaking some investigation at their end.</p>
45.11.11	<p>Convener Committee - X (Fundamental and Multidisciplinary Geosciences) presented discussions and findings of the Committee meeting held at Kolkata on 22nd July, 2009. Domains of specialized research were identified in the meeting. The recommendations made include -</p> <p>(a) To contribute in research in the frontier domains of Geoscience through inter-institutional collaboration. The participating institutions should formulate programmes and seek collaboration from Member Institutions before the 2nd meeting.</p> <p>(b) GSI to take lead in setting up of a National Centre of Excellence for Geoscience Research, equipped with modern state of the art instrumental facilities.</p> <p>(c) Personnel with appropriate background and aptitude should be selected and trained in reputed laboratories in India and abroad to work in different research laboratories and in the proposed Centre of Excellence.</p> <p>(d) In addition to Standard Reference Material for rock/soil samples, attempts should be initiated to prepare mineral (for EPMA) and gem standards.</p> <p>(e) GSI to take lead in setting up Geological Museums / Monuments and also in Curatorial work. Other Institutions would provide documented samples for display in the Museums.</p> <p>Responding to the recommendations Additional Secretary (Mines)</p>

	<p>suggested to set up cooperative societies to run/incur expenditure on the maintenance of facilities that require high expenditure such as EPMA, SHRIMP, Centre of excellence etc. He also stressed the need for manpower training simultaneous with the acquisition of new instruments.</p> <p>Advisor, TPPC desired that the instruments should run on 24 hour basis which is not possible in the present GSI set up.</p> <p>Additional Secretary (Mines) informed that a modernization committee, with members from outside GSI has been set up to examine the issue.</p> <p style="text-align: right;">[Action : GSI]</p>
45.11.12	<p>Convener Committee - XI (Geoinformatics and Data Management) presented the recommendations of the meeting held at Kolkata on 14th July, 2009. He mentioned that collaboration with the NIC in the studies of NGCM and Landslide would be effective. The major recommendations include –</p> <ul style="list-style-type: none"> (a) Long term policy needs to be in place for data standardization and interoperability. (b) GSI and MECL may collaborate in the field of 3D geological modeling using subsurface data generated through drilling. (c) GSI and NIC can collaborate in application of newer technology in the field of Geoinformatics with special reference to geological data. (d) DGM websites may be linked with GSI Portal and vice versa. (e) All state government departments should provide relevant information to IBM for the Tenement Registry. All leasehold areas should be stored as polygon geometry and at cadastral level. <p>On a query from Director (Technical) MoM, Convener informed that it was possible to give linkages to other sites through GSI website.</p> <p>Additional Secretary (Mines) informed the necessity to take help of NIC at State level for their guidance in the long run.</p> <p style="text-align: right;">[Action : GSI/ All State DGMs]</p>
45.11.13	<p>On behalf of the Convener, Member Secretary Committee - XII(Geoscience and Sustainable Development) presented the decisions taken in the meeting held at New Delhi. He informed the house that –</p> <ul style="list-style-type: none"> (a) GSI is principally a data provider and stakeholders can collect data on related parameters. The three year geomorphological mapping programme on 1:50k scale is in progress and the generated data will be freely available. He mentioned the need of synergy with other organizations. (b) He mentioned that Rs 15 Crores has been allocated for environment and climate change studies and with this allocation GSI will undertake heliborne geophysical and remote sensing surveys to develop geophysical repository data to locate deep seated aquifers etc. <p>Joint Secretary, Ministry of Mines and Convener of the Committee further</p>

	<p>elaborated the issues and informed that GSI will provide value addition to the subject and to develop synergy with relevant departments. She requested the State Governments to make use of the opportunity.</p> <p>Representative of DGM Andhra Pradesh mentioned that some mine wastes contain valuable minerals as per change in scenario of cut-off grade, they should be utilized for sustainable development.</p> <p>Convenor pointed out that the foremost objective of the sustainable development is to generate awareness among common man about the geological hazards, such as earthquakes, landslides, climate change global warming etc., and their implications in terms of survival through management.</p>
45.12.00	AGENDA ITEMS TAKEN UP FOR DISCUSSION IN THE 45th MEETING OF THE CENTRAL GEOLOGICAL PROGRAMMING BOARD.
45.12.01	The Member Secretary requested all members present in the meeting to participate in the discussion on the proposed agenda items, which were then discussed sequentially.
<i>Agenda 1</i>	<i>Discussion on the proposed programmes of Geological Survey of India vis-à-vis requests received from the different state DGMs and other agencies.</i>
45.12.02	<p>The annual programme of the Geological Survey of India for the Field Season 2009 – 10 includes number of items from different states in accordance with their requirements and necessity. The partnership made is strengthened in many programmes where participation of the geologists of the States has been assured. The discussion were undertaken State wise :</p> <p>CHATTISGARH</p> <p>In the absence of any specific proposal GSI could not consider any item on their request. However GSI proposed 10 items in the state along with regular sponsored Engineering Geology projects. Representative of DGM, Chhattisgarh requested GSI to undertake project on iron ore at Rowghat Block. Member Secretary requested DGM to discuss the issue with GSI, CR along with data.</p> <p style="text-align: right;">[Action: DGM, Chhattisgarh / GSI]</p> <p>MADHYA PRADESH</p> <p>Out of the seven requests made by DGM, Madhya Pradesh GSI has incorporated five in its programme. One item could not be incorporated because the specific area of operation has not been mentioned. GSI will not be taking up DOVE mapping because of shortage of personnel. In addition GSI has proposed 15 items in the state along with regular sponsored Engineering Geology projects.</p> <p>MAHARASHTRA</p>

<p>In addition to the 13 regular items proposed by GSI in the State, DGM, Maharashtra has requested for two more programmes. The programme on manganese has been incorporated but regarding the project on laterite GSI had agreed to take joint traverses and if required regular programme will be undertaken at a later date.</p> <p>[Action: DGM, Maharashtra / GSI]</p> <p>ANDHRA PRADESH</p> <p>Out of several requests made during the bilateral meeting, no specific proposal showing latitude and longitude has been received from DGM, Andhra Pradesh. DGM Andhra Pradesh however showed interest on Bayyaram iron occurrences which has been incorporated in the regular GSI programme. In addition GSI has proposed 14 items in the state and also regular sponsored Engineering Geology projects.</p> <p>Member Secretary requested the State DGM to interact with the local GSI office if they require any proposal to be dropped and other included in its place.</p> <p>Additional Secretary (Mines) advised the states to pursue their items next year if they could not be accommodated during the current year.</p> <p>KARNATAKA</p> <p>Out of the four items suggested by DGM, Karnataka, two items have been incorporated in the GSI programme. The other two will be incorporated during the Field Season 2010 -11 depending on the manpower position. The item proposed by Maritime Board, Government of Karnataka has been accepted. In addition GSI has proposed 14 items in the state along with regular sponsored Engineering Geology projects.</p> <p>Representative of the Geological Society of India desired that GSI should take up bulk testing of kimberlite material and date the diamonds. Member Secretary asked them to send a proposal in this regard for examination.</p> <p>[Action: Geological Society of India]</p> <p>Representative of NGRI informed that some kimberlite pipes had been dated by NGRI.</p> <p>KERALA</p> <p>Out of the three items proposed by DGM, Kerala, GSI has incorporated two items in its programme. The other item on Gold investigation in collaboration with MECL, Member Secretary CGPB informed that the proposal linked with obtaining forest clearance and accordingly a letter has been forwarded to MoM and MoEF for comments. The programme suggested by Department of Harbour Engineering, Government of Kerala,</p>
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	<p>has been incorporated in the GSI's field programme. In addition GSI has proposed 12 programmes along with regular sponsored Engineering Geology projects.</p> <p>Secretary, MOM informed that Kerala state engaged GSI to locate sand bodies and availability of their potentials for constructional purposes. GSI has already studied about availability of sand on shore. She desired that GSI should give presentation to the Chief Secretary/Secretary of the State on its activities in the state.</p> <p style="text-align: right;">[Action: GSI]</p> <p>TAMIL NADU</p> <p>All the four items proposed by DGM, Tamil Nadu and one item proposed by Neyveli Lignite Corporation have been incorporated in the proposal of GSI. In addition GSI has proposed 17 items in the state along with regular sponsored Engineering Geology projects.</p> <p>On a query from the Chairperson and Secretary (Mines), representative of Tamil Nadu informed that they are satisfied with the GSI investigations and is formulating collaborative programs with GSI.</p> <p>Representative of NLC informed that they are carrying out exploration and mining as expected in future. Secretary (Mines) intervened to say that NLC required adequate quality and accessibility to sustain the project for the next 30-40 years. The present find was not of good quality and she stressed that the present find should get converted into mining in the near future.</p> <p style="text-align: right;">[Action : NLC]</p> <p>ASSAM</p> <p>DGM, Assam has proposed ten items for consideration out of which GSI has proposed two items in their programmes. GSI cannot take the two items of coal investigation because of prior commitments. Member Secretary informed that the funding for the coal investigation in Dhubri district Assam will be made through CMPDIL. GSI may consider the item of iron ore investigation in Samchampi area in the next field season if work in adjacent Maghalaya during 2009-10 is encouraging. GSI has agreed to undertake two items on decorative stone on manpower sharing basis. Regarding upgradation of Remote Sensing Cell Member Secretary advised DGM to contact Northeast Space Application Center. Regarding establishment of mining institute in Assam, Member Secretary advised DGM to contact Minsitry of Human Resource Development. GSI has incorporated six programmes in its proposal along with regular sponsored Engineering Geology projects.</p>
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	<p>TRIPURA</p> <p>Out of the three items requested by Industries Department, Government of Tripura, GSI has proposed one item in its programme and rests need not be persued as already lot of work has been done.</p> <p>MIZORAM</p> <p>Out of the four items requested by DGM, Mizoram, GSI has proposed one item in its programme. The request of two other items is being resolved. The request made by National Thermal Power Corporation Limited will be taken up by GSI subject to availability of personnel. In addition GSI has proposed one item in the state along with regular sponsored Engineering Geology projects.</p> <p>NAGALAND</p> <p>The proposals made by DGM, Nagaland will be considered in future. GSI, however, has proposed two programmes in the state.</p> <p>ARUNACHAL PRADESH</p> <p>Three items have been included in the GSI programme in the state at the request of NHPC and Jaiprakash Power Venture Limited. However the feasibility of undertaking the items depends on the availability of trained personnel. In addition GSI has proposed four items in the state along with regular sponsored Engineering Geology projects.</p> <p>MEGHALAYA</p> <p>The two items proposed by Directorate of Mineral Resources and Department of Urban Affairs has been proposed in GSI programme. In addition GSI has proposed 12 items in the state along with regular sponsored Engineering Geology projects.</p> <p>Secretary (Mines) advised Government of Meghalaya to keep iron ore and limestone investigation in the state on top priority as it would eventually lead to development of the state.</p> <p>[Action: DGM, Meghalaya]</p> <p>MANIPUR</p> <p>No specific request has been received from DGM, Manipur. However one programme on PGE exploration has been proposed in the state along with regular sponsored Engineering Geology projects.</p>
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	<p>SIKKIM</p> <p>In addition to the two programmes proposed by DMMG, Sikkim, GSI has proposed four items in the state along with regular sponsored Engineering Geology projects.</p> <p>Representative of Sikkim expressed concern at the reports of melting of glaciers as they are a source of drinking water. He stated that a high level committee with the Governor as Chairman has been set up to take stock of the situation.</p> <p>Secretary (Mines) informed that GSI has proposed a project on Tamse glaciers. She enquired about the requested piece of land at Gangtok for constructing a building for GSI office. She informed the house that she had discussed the matter with the Chief Minister of the State along with other GSI officers during her visit to Sikkim. She requested the Sikkim officials to take up the issue with their State administration and D.G., GSI to call on the Governor / Chief Minister and pursue the matter.</p> <p>[Action : DMMG, Sikkim / GSI]</p> <p>JAMMU AND KASHMIR</p> <p>DGM, J & K requested GSI to take two programmes. GSI requested DGM, J & K to prepare the details. The details submitted are very sketchy and GSI has completed work in both the proposed projects. Member Secretary informed that GSI could provide technical advice to DGM to work in the projects if desired. However GSI has proposed four items in the state along with regular sponsored Engineering Geology projects.</p> <p>Representative of DGM desired reopening of the Aishmuqam training centre of GSI. Deputy Director General GSITI informed that a visit would be made in the area and review the ground situation before any decision is taken. Secretary (Mines) urged GSI to give special attention to J&K like NER.</p> <p>[Action : DGM, J&K / GSI]</p> <p>HIMACHAL PRADESH</p> <p>The three items proposed by Department of Industries, Government of Himachal Pradesh have been proposed by GSI. In addition GSI has proposed 10 items from the state in its annual programme.</p> <p>Representative of DGM, Himachal Pradesh pointed out that the state has only minor minerals and urged GSI to take up minor mineral investigation. Responding to the proposal, Member Secretary informed that GSI had undertaken quartzite investigation and it could not assess all the sites. However, environmental impact studies could be taken up in desired areas.</p>
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<p>Representative of Geological Society of India commented that mining of minor minerals did not require any technology and GSI should only identify the areas to be mined.</p> <p>Additional Secretary (Mines) advised the state to identify areas and specific problems for consideration by GSI. He also asked the Advisor, TPPC to prepare a list of institutions that can help in minor mineral exploration and asked TPPC to open a minor mineral window in TPPC to advise on the issue.</p> <p>[Action : TPPC]</p> <p>Secretary (Mines) suggested GSI and NIRM to help in capacity building of the state DGM in respect of minor minerals and its mining problems.</p> <p>UTTARAKHAND</p> <p>No specific proposal has been received from DGM, Uttarakhand; however on request of DST/CSIO, one item on Sher Ka Danda Landslide has been proposed by GSI. In addition 10 items were proposed by GSI along with regular sponsored Engineering Geology projects.</p> <p>UTTAR PRADESH</p> <p>No specific proposal has been received from DGM, Uttar Pradesh; however GSI has proposed six items in the state along with regular sponsored Engineering Geology projects.</p> <p>PUNJAB</p> <p>No specific proposal has been received from DGM, Punjab; however GSI has proposed three items in the state along with regular sponsored Engineering Geology projects.</p> <p>HARYANA</p> <p>The two proposals submitted by DGM, Haryana during the SGPB meeting could not be considered by GSI for late receipt. Member Secretary however pointed out that the proposals might be considered during 2010 –2011 season after discussion. GSI has proposed five programmes in the state along with regular sponsored Engineering Geology projects.</p> <p>[Action : GSI]</p> <p>GUJARAT</p> <p>Out of the nine proposals submitted by different governmental organization, GSI has given proposal for seven items. Item on DOVE mapping could not be taken up due to shortage of personnel and the item on manganese</p>
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<p>exploration will be taken up during 2010 –11. In addition GSI has proposed nine items in the state along with regular sponsored Engineering Geology projects.</p> <p>[Action : GSI]</p> <p>Representative of DGM, Gujarat desired to participate in a Cruise of the Marine Wing of the GSI. Secretary (Mines) agreed to the request and asked all State DGMs to take part in GSI's Marine and Airborne cruises. All coastal states should make a demand to make use of the wealth through state of the art technology of Marine Wing of the GSI, she opined.</p> <p>[Action : Concerned State DGMs]</p> <p>RAJASTHAN</p> <p>Out of the five proposals submitted by different governmental organizations, the item on phosphorite will be taken up by GSI from Madhya Pradesh side. The rest of the proposals are in a very preliminary stage and not considered by GSI for the 2009 – 10 season. However, the assessment is continuing for considering them in future. In addition GSI has proposed 28 programmes in the state along with regular sponsored Engineering Geology projects.</p> <p>[Action : GSI]</p> <p>Representative of HCL requested GSI to take up some work in lease areas. The Member Secretary advised them to invite MECL on contractual basis as GSI does not work in lease hold areas.</p> <p>On the issue of chemical analysis of samples, Member Secretary requested DGM to send the samples to the Chemical laboratory of the Western Region, GSI for analysis as many of the samples were giving much lower values of gold and silver compared to DGM laboratory results.</p> <p>[Action : DGM, Rajasthan]</p> <p>WEST BENGAL AND ANDAMAN – NICOBAR</p> <p>Out of the two items proposed by DMM, West Bengal, one item has been proposed in the annual programme of GSI. For Purulia phosphate project DMM has been requested to provide information on lease free area. In addition 28 programmes have been proposed by GSI in the state along with regular sponsored Engineering Geology Projects.</p> <p>Representative of DMM requested GSI for undertaking study for landslide micro zonation of Darjeeling area pointing that every year the area experiences landslides causing loss to life and property. Director (P&M), GSI and DDG, E.R., GSI replied that the E.R. has already carried out studies and the report is ready. DMM was requested to go through the report and if felt necessary a concrete proposal may be submitted for consideration by GSI. Regarding Beneficiation of P₂O₅ in Purulia, Member</p>
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	<p>Secretary advised DMM to contact IBM for the purpose. [Action : DMM, W.B.]</p> <p>ORISSA</p> <p>Five proposals have been received from different governmental organization of which GSI has proposed one item in its programme. Evaluation of coastal processes in Mahanadi delta will be undertaken by Space Application Centre Ahmedabad. For other items correspondences are in progress and will be considered in future, if found suitable. In addition GSI has proposed 19 programmes in the states along with regular sponsored Engineering Geology Projects. [Action : DGM, Orissa /GSI]</p> <p>JHARKHAND</p> <p>DGM, Jharkhand has submitted two proposals for working with GSI in a collaborative mode which would be considered with adjustment of the proposed programmes. In addition GSI has proposed four items in the state along with regular sponsored Engineering Geology Projects. [Action : DGM, Jharkhand /GSI]</p> <p>BIHAR</p> <p>DGM requested GSI to take up gold investigation in Sono area. Member Secretary informed that the area was earlier investigated by GSI and DGM. An uneconomic prospect was established by DGM. However if DGM requires undertaking further work in the area, GSI will provide the necessary technical support and suggested DGM to give a concrete proposal and assured that the programme will be accommodated, if found suitable. In addition, GSI has proposed three programmes in the state along with regular sponsored Engineering Geology Projects. [Action : DGM, Bihar /GSI]</p>
Agenda 2	<i>Constraints in exploration and Mining of precious metals vis-à-vis NMP 1994 & 2008 and MCR 1960. (Suggestion : Geomysore Services (India) Private Limited)</i>
45.12.03	The information provided in the agenda is not based on factual data. In general there is no delay on the part of MoM or GSI for providing opinion on the subject concession. However if there is any delay in any particular case, the same may be taken up with the state departments on case to case basis.
Agenda 3	<i>Prospecting by the Private Sector is time bound whereas that of GSI is not time bound etc. (Suggestion : Geomysore Services (India) Private Limited)</i>
45.12.04	The information provided is misconceived. GSI's programmes are also time bound and is clearly written in the programme. For undertaking exploration work GSI is also required to observe the procedural formalities for

	reservation of any particular area and its relinquishment after the completion of the work.
Agenda 4	<i>Integration and Online Data Sharing. (Suggestion : Ministry of Water Resources)</i>
45.12.05	Although the basic aim of subsurface exploration of GSI and CGWB is different, the idea of a common pool of data repository is welcome. The data structure for storing information in CGWB and in GSI may be discussed for deciding future course of action. [Action : Ministry of Water Resources /CGWB /GSI]
Agenda 5	<i>Preparation of Master Plan on Earth Resources of India. (Suggestion : Ministry of Water Resources)</i>
45.12.06	The facility of grid computing is not well developed in India. The idea may be presented as an agenda note during the next meeting of the Group XI committee for setting up of a task force to go into the details of the proposal. [Action : Ministry of Water Resources /GSI/ Convener, CGPB Com. -XI]
Agenda 6	<i>Web based District level Geological and Hydrological Information. (Suggestion : Ministry of Water Resources)</i>
45.12.07	GSI has uploaded geological information in the form of district resource map. CGWB may supplement their information on hydrology over them and upload in their website acknowledging the district resource map of GSI.
Agenda 7	<i>Convergence of Schemes of Ministry of Water Resources. (Suggestion : Ministry of Water Resources)</i>
45.12.08	The suggestion is welcome. This needs to be discussed in the at length in the CGPB Committee IX. [Action : Ministry of Water Resources /GSI/ Convener, CGPB Com. -IX]
Agenda 8	<i>Mapping of Aquifer System. (Suggestion : Ministry of Water Resources)</i>
45.12.09	GSI is opening a new thematic unit on “Subsurface Geology and Hydrology” at Faridabad. Such programmes may be taken up after discussion in CGPB Committee IX in a collaborative mode. [Action : Ministry of Water Resources /GSI/ Convener, CGPB Com. -IX] Additional Secretary (Mines) enquired to know whether any state is interested to join in the committee. Representative of Andhra Pradesh requested to send a letter to the State Government to which Member Secretary agreed. [Action : GSI/ Convener, CGPB Com. -IX]
Agenda 9	<i>Capacity Building and Training. (Suggestion : Ministry of Water Resources)</i>

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45.12.10	GSI's annual training calendar is available in the portal. Officers of CGWB may join any of the courses free of cost.
Agenda 10	Collaborative Studies. (Suggestion : Ministry of Water Resources)
45.12.11	GSI has aeromagnetic data flown at an altitude of ~ 150m in specific areas. Specific proposals may be submitted for collaboration in future. On the geochemical studies for geogenic causes of contamination of aquifer, GSI would like to work on specific proposal in a collaborative mode.
Agenda 11	Detailed Geological Mapping. (Suggestion : Ministry of Water Resources)
45.12.12	GSI has a programme of specialized thematic mapping on 1:25,000 scale and intends to cover two lac forty thousand sq km. The maps will be available for dissemination purpose in future. GSI also undertakes mapping on 1 : 10,000 scale on specific request.
Agenda 12	Most of the blocks in Godavari Valley Coalfield lies in forest areas. The matter needs to be discussed etc. (Suggestion : SCCL)
45.12.13	The issue regarding forest clearance for exploration has already been taken up by MoM with MOEF.
Agenda 13	Further modification required in the forest guidelines ... etc. (Suggestion : SCCL)
45.12.14	Please see Agenda 12.
Agenda 14	Collection of depleted reserve data in lignite areas by NLC. (Suggestion : NLC)
45.12.15	NLC may collect data on the depleted lignite reserve from concerned agencies and communicate the block wise depleted figure to GSI for incorporation in the National Inventory of Lignite. [Action : NLC / GSI]
Agenda 15	Purchase of GR of GSI for Integrated Lignite Resource Information (ILRIS) project. (Suggestion : NLC)
45.12.16	The issue has already been discussed in several meetings. NLC may approach MoM for necessary guidelines. [Action : NLC]
Agenda 16	The operational Circles of GSI may be authorized to furnish information on mineral exploration to the State Directorate etc. (Suggestion : DGM, Orissa)
45.12.17	Deputy Director General, Op. : Orissa can pass on the data directly to the State Directorate after obtaining necessary approval from the Director General, GSI. Representative of DGM, Orissa requested GSI to give its five year rolling plan in the state to enable them to finalize their programme.

	<p>Additional Secretary (Mines) proposed that in the next CGPB some state may come with five year rolling plan to which representative of DGM, Orissa and Jharkhand committed that they will make presentation in the next CGPB.</p> <p>[Action : DGM, Orissa , Jharkhand]</p>
Agenda 17	<i>Sometimes Government desires to formulate certain technical committee to finalize the exploration programme. Operational circles of GSI may be authorized to nominate officers of GSI from the state to look into the requirement of the state government. (Suggestion : DGM, Orissa)</i>
45.12.18	Deputy Director General, Op. Orissa is authorized to nominate after taking approval of DG, GSI.
Agenda 18	<i>Although India is a voting member on International Commission on Stratigraphy there is no statutory body to look into the matter, So creation of Indian Stratigraphic Commission is required etc. (Suggestion : HOD, GSI, Eastern Region)</i>
45.12.19	<p>The issue may be discussed in the CGPB committee -X.</p> <p>[Action : HOD, GSI, ER/ Convener, CGPB Com. -X]</p>
Agenda 19	<i>Issues relating to rationalization of coal studies including bill raising etc. (Suggestion : CIMFR)</i>
	The concerned Energy Minerals Division has been advised to look into the affairs.
Agenda 20	<i>The latest guidelines of MOEF for diversion of forestland for non-forestry purpose etc.. (Suggestion : CMPDI)</i>
45.12.21	The issue is being taken up by MoM with MOEF.
Agenda 21	<i>In the arena of Geoinformatics, DMM, West Bengal has significant volume of data and request GSI to extend expert opinion etc. (Suggestion : DMM, W.B.)</i>
45.12.22	<p>The issue may be raised in the meeting of CGPB Committee XI. GSI can extend expert opinion. RP/PL/ML data can be part of tenement registry being developed by IBM.</p> <p>[Action : DMM, W.B. / GSI/ Convener, CGPB Com. -XI]</p>
Agenda 22	<i>DMM, West Bengal is a new entrant in the field of marine geology and coastal geosciences and requests help from GSI etc.. (Suggestion : DMM, W.B.)</i>
45.12.23	<p>GSI is ready to provide the necessary help. However, GSI is carrying out its own studies along the coast of West Bengal.</p> <p>[Action : DMM, W.B. / GSI]</p>
Agenda 23	<i>GSI to formulate capsule training course for State Geologists and other technical personnel on the basis of the need of the state etc. (Suggestion :</i>

	<i>DMM, W.B.)</i>
45.12.24	Action has already been taken by GSI. DMM, W.B. is requested to provide specific details for consideration by GSI. [Action : DMM, W.B. / GSI]
<i>Agenda 24</i>	<i>Regarding Silicosis problem CGM, Gujarat is under interaction and the concerned organization is requested to provide information on the case study etc. (Suggestion : DMM, W.B.)</i>
45.12.25	CGM, Gujarat informed that the interaction made with DMM, W.B. The work done by Gujarat is of preliminary nature and further study was undertaken by NIOH and the findings need to be collected from NIOH.
<i>Agenda 25</i>	<i>There should be separate provision for forest clearance for Government departments who is working for Research purpose and private companies who is working for commercial purpose. (Suggestion : DGM, Chhattisgarh.)</i>
45.12.26	MoM to react on the issue.
<i>Agenda 26</i>	<i>Remotely located districts of Chhattisgarh which are under disturbed law and order condition should be covered by airborne geophysical survey. (Suggestion : DGM, Chhattisgarh)</i>
45.12.27	Airborne survey has been conducted in the northern part of Chhattisgarh. In the proposed area because of terrain condition, heliborne survey is a better proposition. GSI is in the process of acquiring heliborne system and may consider the proposal in future.
<i>Agenda 27</i>	<i>Joint exploration of PGM in Sukinda Valley by GSI and Directorate of Geology, Orissa. (Suggestion : DGM, Orissa)</i>
45.12.28	GSI has already estimated the resource for some part of the Sukinda Valley deposit, however, the details of proposal may be submitted for working out the modalities. The detailed work can be taken up by MECL. [Action : DGM, Orissa / GSI/ MECL]
<i>Agenda 28</i>	<i>Joint exploration of Gold in part of Keonjhar district by GSI and Directorate of Geology, Orissa. (Suggestion : DGM, Orissa)</i>
45.12.29	A detailed programme may be formulated and a MoU may be drawn to take the exploration in future. [Action : DGM, Orissa / GSI]
<i>Agenda 29</i>	<i>GSI(Orissa) may be authorized to share mineral information with Directorate of Geology, Orissa. (Suggestion : DGM, Orissa)</i>
45.12.30	The new dissemination policy of GSI reports takes care of the issue.
<i>Agenda 30</i>	<i>Gold and PGE exploration in southern part of Sindhudurg district, Maharashtra. (Suggestion : DGM, Maharashtra)</i>

45.12.31	<p>Geological Survey of India has carried out investigation in the area. Although some stray samples gives higher PGE values but the data is not consistent and the intensity of anomaly is insignificant. Joint traverse will be taken in the area by GSI and DGM, Maharashtra.</p> <p>[Action : DGM, Maharashtra/ GSI]</p>
Agenda 31	<i>Gold and PGE exploration in Solapur district, Maharashtra. (Suggestion : DGM, Maharashtra)</i>
45.12.32	<p>Solapur district is covered by basalt and there is no incidence of Au and PGE in the area. However GSI will undertake joint traverse in the area with DGM, Maharashtra to check the potentiality of the area.</p> <p>[Action : DGM, Maharashtra/ GSI]</p>
45.13.00	PRESENTATION OF ANNUAL PROGRAMME FOR 2009-10
45.13.01	<p>Dr. Balaram Chattopadhyay, Deputy Director General (PPM) and Member Secretary, CGPB presented the Annual Programme of GSI for the Field season 2009 – 10. He expressed that the Annual Programme has already been indicated during the discussion of the Agenda items. He opined that GSI is grateful to all the participating organizations for successful formulation of the annual programme. He then placed the annual programme for approval of the house, which was accepted and approved. He mentioned that the success of these programmes will depend on wholehearted and yearlong cooperation from all.</p>
45.14.00	CONCLUDING REMARKS
45.14.01	<p>Additional Secretary (Mines) while concluding the proceedings of the 45th CGPB made the following remarks and underlined the issues for follow up action :-</p> <ol style="list-style-type: none"> 1. GSI Field Season Book and Software should show Mission and Region in each case from FSP 2009-10 onwards (including erstwhile Coal, Marine and AMSE items). Documents may be updated now before circulation. <p>[Action : GSI]</p> <ol style="list-style-type: none"> 2. GSI Regions must begin to function as Mini-GSIs and State Governments to develop linkages with Regional and State Units, and State Units to start keeping State level Reports and Maps. <p>[Action : All States / GSI]</p> <ol style="list-style-type: none"> 3. GSI should properly archive GP data in Data Repository (for which special funding being given) and link to Portal after lock in is over. 4. States should release GP data of third party after lock- in, subject to

	<p>normal charges. MOM will issue guidelines in consultation with GSI.</p> <p>[Action : MOM / GSI]</p> <p>5. GSI to issue guidelines on release of part-NGCM data and reports and their placement on Portal.</p> <p>[Action : GSI]</p> <p>6. GSI to limit its regional mineral exploration to three years in case there are RP/PL applications.</p> <p>[Action : GSI]</p> <p>7. GSI to start new programmes for shallow subsurface (100 to 300 m) database.</p> <p>[Action : GSI]</p> <p>8. GSI should maintain a systematic Core Repository.</p> <p>[Action : GSI]</p> <p>9. More attention should be given in Committees, etc. to fertilizer minerals and base and noble metals.</p> <p>[Action : Conveners, CGPB Com. II, III, IV]</p> <p>10. GSI to rationalize policy on exploration for iron ore when private enterprise is ready.</p> <p>[Action : GSI]</p> <p>11. On the issue of GSI Portal – Faster data entry, including outsourcing for (a) Legacy FSP and Extended Abstracts (b) Unpublished Reports and Maps (c) 1:50 k Geo maps (d) Photographs (e) Case Studies (f) Published Maps and Reports (Stakeholders can indicate preference)</p> <p>[Action : GSI]</p> <p>12. On the issue of MOM-GSI-State partnership (a) GSI and States must get into partnerships for programmes</p>
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	<p>where States want higher priority.</p> <ul style="list-style-type: none">(b) States should participate more keenly in SGPB, Committees and training programmes.(c) MOM will help build capacity in State DGMs through a Central Sponsored scheme.(d) Minister of Mines has consented to take up with CMs to help DGM capacity building.(e) GSI to develop partnership with State Governments in Exhibitions, and State Level Museum.(f) GSI must make State Level exhibitions an FSP item and hold exhibitions at State Level.(g) States whose items have come too late for current year will have their items considered in FSP 10-11, but they should reiterate it through SGPB.(h) Lower threshold and UNFC:- GSI to formulate strategy for freehold, States and IBM for leasehold.(i) Tenement Registry:- States have the data on cadastres, and leases (minor and major); and are crucial to creation of the Registry by IBM.(j) States should start preparing for new regime under the new Act:- Ore bodies can be auctioned if UNFC prospecting report and bankable feasibility report is there. MECL should also prepare to avail of new opportunities. <p>13. On the issue of training:</p> <ul style="list-style-type: none">(a) FTC and Regional Training items should come under Regions in FSP.(b) All courses open to all States, free of cost.(c) States can ask for more courses at Training Institutes and Regional Training Institutes.(d) GSI should conduct Training Needs Assessment for entire sector, not only GSI.(e) States should offer their Training Infrastructure to GSI.(f) GSI to prepare list of Guest Faculty and place on Portal. Stakeholders can propose addition to Guest Faculty list. <p style="text-align: right;">[Action : GSI]</p> <p>14. Other Issues:</p> <ul style="list-style-type: none">(a) State Remote Sensing Centres must participate in the Airborne and Remote Sensing Committee, so that there is no gap, and also there is adequate coordination.(b) R.P. data should be made available to GSI to enable them to ensure data goes into the Repository. MCAS (IBM Module) to be operationalised and IBM and State Government to do data entry.(c) Matter may be taken up with CSs of States to request State DMA to participate in Committee IX (Natural Hazards etc.)
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	<p>(d) Centre of Excellence with a Registered Society for enabling hassle free operation of SHRIMP and other expensive equipment, and close collaborative programmes with National R&D institutions for 24x7 operation.</p> <p>(e) States to prepare plans for Geology Websites with State NIC Support. Geoinformatics Committee will help coordinate.</p> <p>(f) New Think-Tank (C-TEMPO) under the Ministry to look into scientific exploration of minor minerals as well as its designated tasks.</p> <p>(g) States should propose items for marine and airborne work since now these activities will be part of Regions.</p> <p>[Action : All concerned]</p>
45.15.00	VOTE OF THANKS
45.15.01	Shri Jaswant Singh, Senior Deputy Director General, Geological Survey of India offered vote of thanks.

Annexure – I

Members/Participants in the 45th meeting of the Central Geological Programming Board held on 11th and 12th September, 2009 at New Delhi.

Sl. No.	Name	Designation	Organisation
1.	Shri B. K. Handique,	Hon'ble Minister of Mines and DoNER	
2.	Smt. Santha Sheela Nair	Secretary (Mines) and Chairperson, CGPB	Ministry of Mines
3.	Sri S. Vijay Kumar	Addl. Secretary (Mines)	Ministry of Mines
4.	Shri Niteesh Kumar Dutta	Director General (Current Charge)	Geological Survey of India
5.	Shri Jaswant Singh	Sr. Dy. Director General	Geological Survey of India
6.	Dr. B. Chattopadhyay	Dy. Director General & Member Secretary, CGPB	Geological Survey of India
7.	Smt. Ajita Bajpai Pandey	Jt. Secretary	Ministry of Mines
8.	Shri V. K.Thakral	Jt. Secretary	Ministry of Mines
9.	Shri Sanjiv Mittal	JS & FA	Ministry of Mines & Coal
10.	Shri G. Srinivas	Director	Ministry of Mines
11.	Dr. K. Ayyasami	Director (T)	Ministry of Mines
12.	Shri S. Kishnani	Director	Ministry of Mines
13.	Shri A. K.Bhandari	Advisor, TPPC	Ministry of Mines
14.	Shri L. P.Sonkar	Advisor (M)	Planning Commission
15.	Shri R. B.Tygi	Dy. Advisor (M)	Planning Commission
16.	Shri R. K. Sharma	Secretar General	FIMI
17.	Shri S. B. S. Chauhan		FIMI
18.	Shri K.K. Pradhan	Secretary, Mines	Government of Sikkim
19.	Shri Akhilesh Sharma	Secretary, Industries Department	Government of Kerala.
20.	Mrs. M.K.Rajendran	Secretary, Department of Industry	Government of Tamil Nadu
21.	Shri A. Shome	MD	MMDC
22.	Shri Manoj Kumar	Commissioner, Industry	Himachal Pradesh
23.	Shri Vinaya Vyasa	Commissioner of Geology and Mining	Government of Gujarat
24.	Shri B. S. Ramaprasad	Secretary, Commerce and Industry	Government of Karnataka
25.	Shri V. K. Mishra	Deputy Secretary, Mineral Resources Department	Government of Chhattisgarh
26.	Dr. G. Madhukar	Jt. Director, Department of Mines and Geology	Government of Andhra Pradesh
27.	Shri L. C. Bezbaruah	Director, DGM	Government of Assam
28.	Shri I. D. Paswan	Director, Mines	Government of Bihar
29.	Shri Anil Sharma	Deputy Director, DGM	Government of Chhattisgarh
30.	Shri Hector Fernandes	Sr. Technical Assistant, DGM	Government of Goa

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31.	Shri M.V. Morada	Commissioner, DGM	Government of Gujarat
32.	Shri Vir Singh	Sr. Geologist, DGM	Government of Haryana
33.	Shri Arun Sharma	State Geologist, Department of Industries and Commerce	Government of Himachal Pradesh
34.	Dr. A. S. Sodhi	Geologist, DGM	Government of Jammu and Kashmir
35.	Shri Jai Prakash Singh	Director Geology, DGM	Government of Jharkhand
36.	Shri Ashutosh Prasad	Deputy Director, Geology, DGM	Government of Jharkhand
37.	Shri M. E. Shivalingamurthy	Director, (Mineral), DGM	Government of Karnataka
38.	Shri Vasudeva C	Addl. Director, DGM	Government of Kerala
39.	Shri R. K. Sharma	Director, DGM	Government of Madhya Pradesh
40.	Shri V. S. Sawakhande	Director, DGM	Government of Maharashtra
41.	Dr. D. K. Bhattacharyya	Jt. Director, Directorate of Mineral Resources, DMG	Government of Meghalaya
42.	Dr. H. Lallenmawwia	Jt. Director, Directorate of Industries (Geology Wing)	Government of Mizoram
43.	Sri J. R Patnaik	Director, Geology, DGM	Government of Orissa
44.	Shri Pradeep Bhatnagar	Addl. Director (Geology), DGM	Government of Rajasthan
45.	Shri G. C. Khanal	Jt. Director, DGM	Government of Sikkim
46.	Shri J. A. Subbiah	Dy. Director, DGM	Government of Tamil Nadu
47.	Shri B. Jaya Kumar	Dy. Director	Government of Tamil Nadu
48.	Shri T. K. Shome	Director	Directorate of Mines and Minerals, Govt of West Bengal
49.	Shri S. Das	Sr. Geologist	Directorate of Mines and Minerals, Govt of West Bengal
50.	Shri R. H. Sawkar	Secretary	Geol. Soc. India, Bangalore
51.	Shri K. R. Gupta		Geol. Soc. Ind., Bangalore
52.	Shri A. B. Chowdhury	Director	Ministry of Earth Science
53.	Shri R. M. Mishra		Ministry of Water Resources
54.	Shri J. S. Mowr		Ministry of Water Resources
55.	Brig. R. C. Padhi	Dy. D.G	Ministry of Defence
56.	Dr. M. Prithviraj	Director/Scientist-F	Department of Science and Technology
57.	Shri S. Kumar	Member	CGWB
58.	Dr. S. K. Jain	Scientist-D	CGWB
59.	Shri C. S. Gundewar	Controller General	IBM
60.	Shri Ranjan Sahay	Chief Controller of Mines	IBM
61.	Dr. S. K. Halder	Director (Tech)	MECL
62.	Shri Yogesh Sharma	Sr. Manager	MECL
63.	Shri V.K.S. Visen	HOD (E)	MECL
64.	Shri M. Krishnan	Chief Geologist	NLC
65.	Shri Y. S. Babu Rao	Chief of Exploration	SCCL
66.	Prof. T. Kumar	Director	Indian School Mines University
67.	Shri C. L. Bhairam	Regional Director	AMD
68.	Shri P. C. Raut		AMD

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69.	Shri R. K. Mishra	Superintending Geologist	KDMIPE/ONGC
70.	Shri Sansar Singh	Superintending Surveyor	Survey of India
71.	Shri J. Mahapatra	Chief Manager(Expl.)	NALCO
72.	Shri B. Chatterjee	Exploration Manager	Rio-Tinto
73.	Shri P. C. Mathur	AGM (Admn.)	HCL
74.	Dr. R. Bhardwaj	AGM Exploration	HCL
75.	Shri V. N. Mishra	AM, Exploration	HCL
76.	Shri R. K. Singh	Sr. Dy. Director General	Geological Survey of India
77.	Shri U. K. Ray	Dy. Director General	Geological Survey of India
78.	Shri M. M. Swami	Dy. Director General	Geological Survey of India
79.	Shri R. K. Khorana	Dy. Director General	Geological Survey of India
80.	Shri R. G. Vijay	Dy. Director General	Geological Survey of India
81.	Shri V. K. Kanchan	Dy. Director General	Geological Survey of India
82.	Shri Sudipta Lajiri	Dy. Director General	Geological Survey of India
83.	Shri A. Sinha	Dy. Director General	Geological Survey of India
84.	Shri S. C. Gulati	Dy. Director General	Geological Survey of India
85.	Shri Amitava Sarkar	Dy. Director General	Geological Survey of India
86.	Shri P. Pande	Dy. Director General	Geological Survey of India
87.	Shri M.V. Rao	Dy. Director General	Geological Survey of India
88.	Shri A. Sundaramoorthy	Dy. Director General	Geological Survey of India
89.	Shri N. M. Mugadur	Dy. Director General	Geological Survey of India
90.	Shri J. Srinivasan	Dy. Director General	Geological Survey of India
91.	Shri N. K. Roy	Dy. Director General	Geological Survey of India
92.	Smt. Bhanumathy Ramashrishnan	Dy. Director General	Geological Survey of India
93.	Shri A. Basudevan	Dy. Director General	Geological Survey of India
94.	Shri Hanumanth Rao	Director	Geological Survey of India
95.	Shri H. Sarvothaman	Director	Geological Survey of India
96.	Dr. D. M. Mohabay	Director	Geological Survey of India
97.	Shri Pratip Gupta	Director	Geological Survey of India
98.	Shri G. Malhotra	Director	Geological Survey of India
99.	Shri V. C. Srivastava	Director	Geological Survey of India
100.	Shri J. N. Ray	Director	Geological Survey of India
101.	Shri S. Bhattacharjee	Director	Geological Survey of India
102.	Shri M. Raju	Director	Geological Survey of India
103.	Dr. S. K. Wadhawan	Director	Geological Survey of India
104.	Shri T. K. Chakraborty	Director	Geological Survey of India
105.	Shri P. Naskar	Director	Geological Survey of India
106.	Shri Sujit Dasgupta	Director	Geological Survey of India
107.	Shri S. Chakraborty	Director	Geological Survey of India
108.	Shri M. S. Jairam	Director	Geological Survey of India
109.	Shri N. Kutumba Rao	Director	Geological Survey of India
110.	Shri A. Bhattacharyya	Director	Geological Survey of India
111.	Shri Virendra Kumar	Director	Geological Survey of India
112.	Shri Sanjib Sharma	Director	Geological Survey of India
113.	Shri Nitish Das	Director	Geological Survey of India
114.	Shri Kuldeep Kachro	Director	Geological Survey of India
115.	Shri G. Dasgupta	Director	Geological Survey of India
116.	Shri N. K. Dhir	Director	Geological Survey of India

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117.	Dr. P. C. Basu	Director	Geological Survey of India
118.	Shri G. S. Jaggi	OSD, IC HPC	Geological Survey of India
119.	Shri M. J. D'souza	Geologist (Sr.)	Geological Survey of India
120.	Shri Asit Saha	Geologist (Sr.)	Geological Survey of India
121.	Shri A. Das	Geologist (Sr.)	Geological Survey of India
122.	Shri K. K. Gangopadhyay	Geologist (Sr.)	Geological Survey of India
123.	Shri D. Saha	Geologist (Sr.)	Geological Survey of India
124.	Shri T. Dutttagupta	Geologist (Sr.)	Geological Survey of India
125.	Shri A. Acharyya	Geologist (Sr.)	Geological Survey of India
126.	Shri M. P. Gaur	Geologist (Sr.)	Geological Survey of India
127.	Shri A.K. Gupta	Geologist (Sr.)	Geological Survey of India
128.	Shri S. N. Bhagat	Geologist (Sr.)	Geological Survey of India
129.	Shri D. Rout	Geologist (Sr.)	Geological Survey of India
130.	Shri Rakesh Kumar	Geologist (Sr.)	Geological Survey of India
131.	Shri C. K. Sengupta	Geologist (Sr.)	Geological Survey of India
132.	Dr J. Bagchi	Geologist (Sr.)	Geological Survey of India
133.	Smt Pushp Lata	Geologist (Sr.)	Geological Survey of India
134.	Shri A Jayal	Geophysicist (Sr.)	Geological Survey of India
135.	Shri A. K. Lahiri	Geophysicists (Sr.)	Geological Survey of India
136.	Dr. O. P. Mishra	Geophysicists (Sr.)	Geological Survey of India